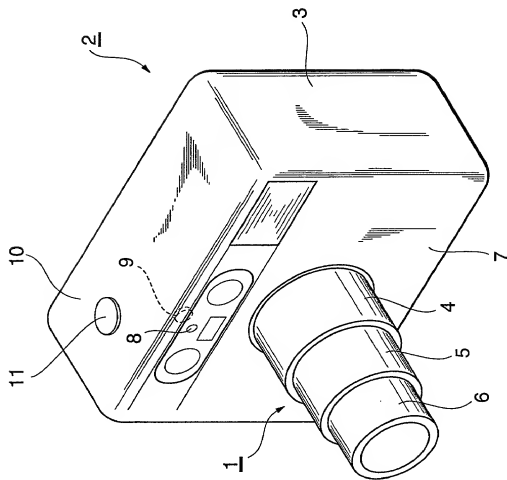


**Fig.1**



109020 10166880

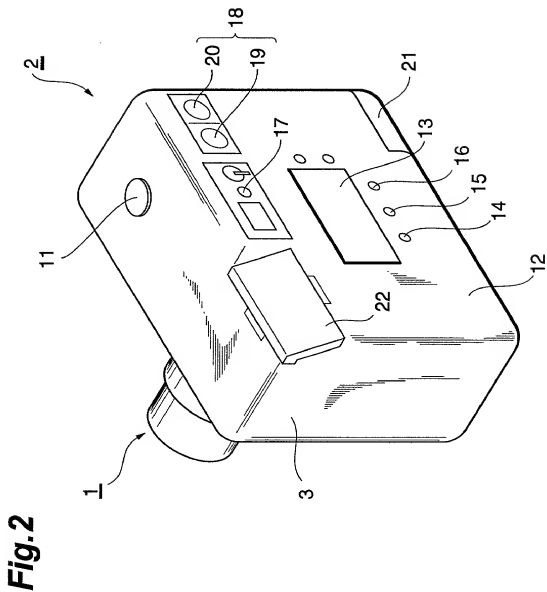
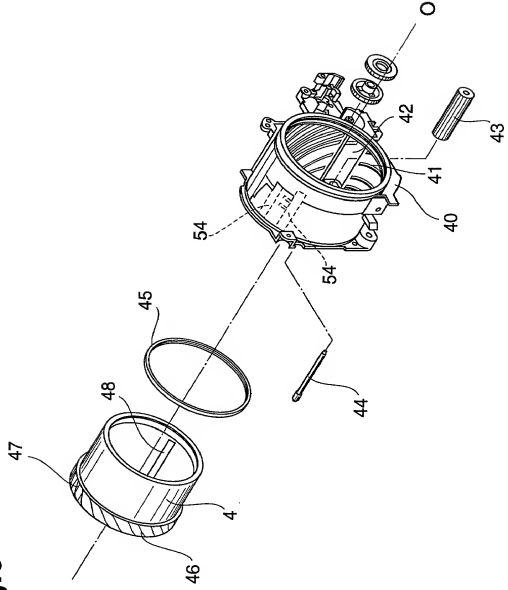
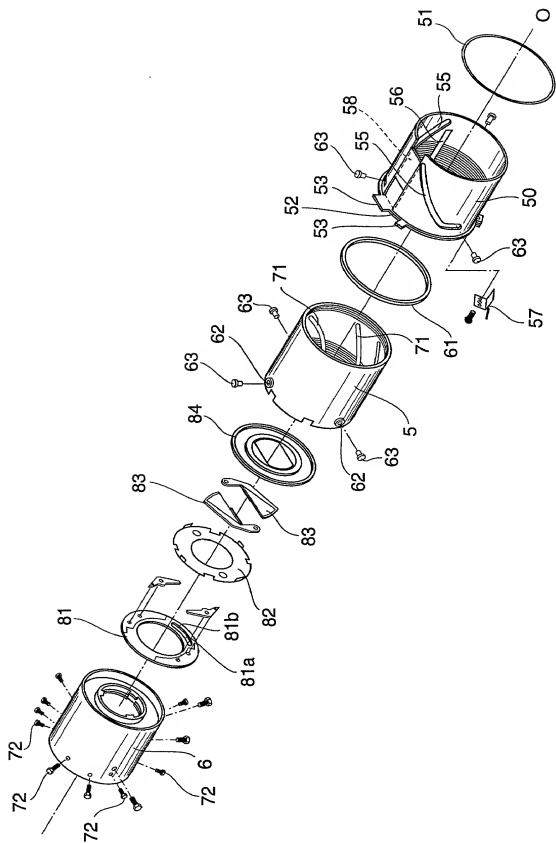
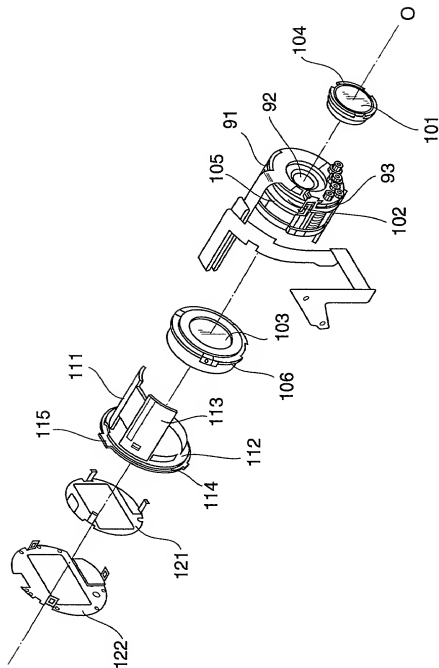


Fig.3



109020" F6166860

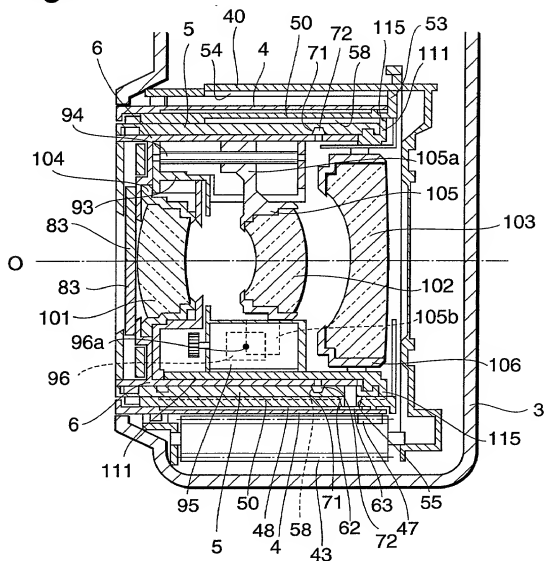




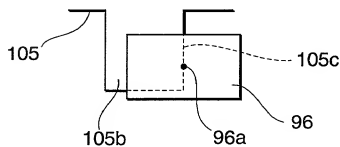
**Fig.5**

109020" F6166860

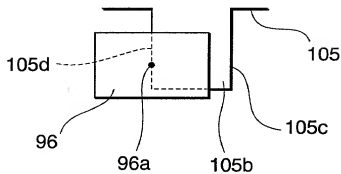
**Fig.6**



**Fig.7**

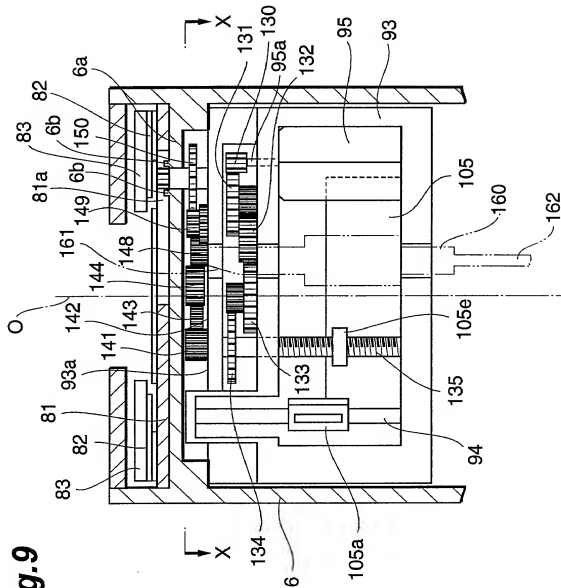


**Fig.8**



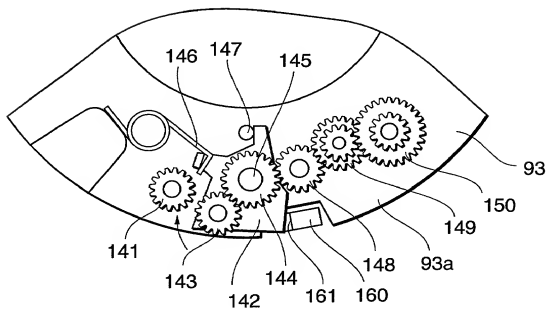
0969191.070601

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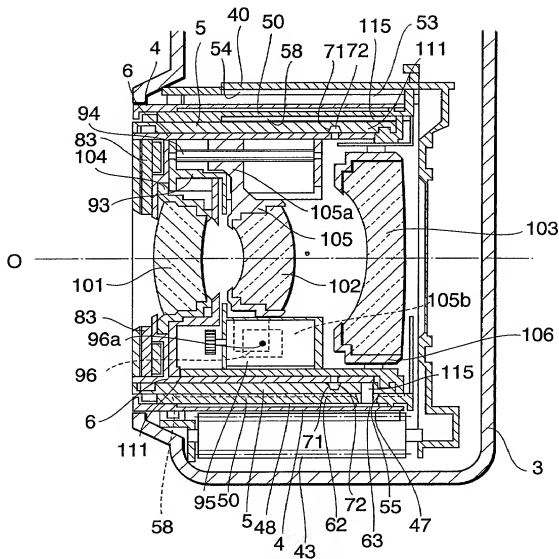


**Fig.10**



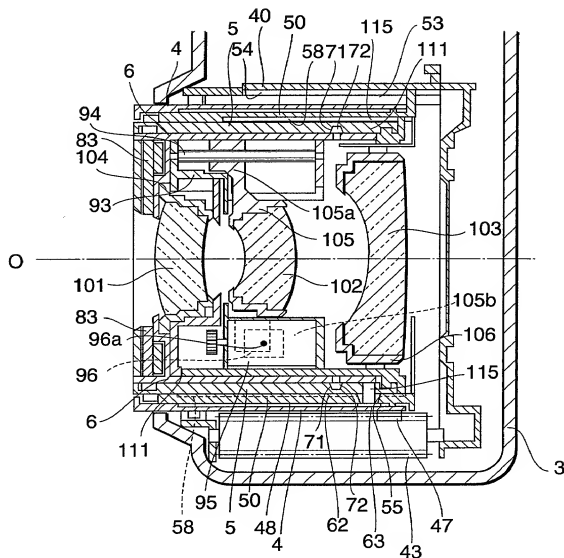
00000001 070601 109070 10160000

**Fig.11**

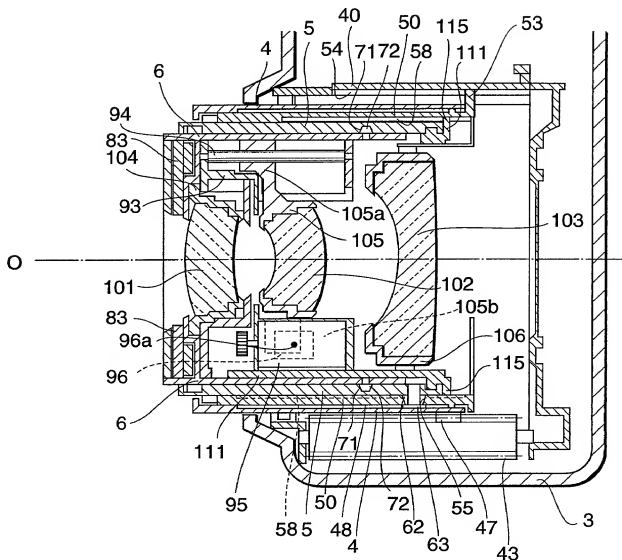


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**Fig.12**



**Fig.13**

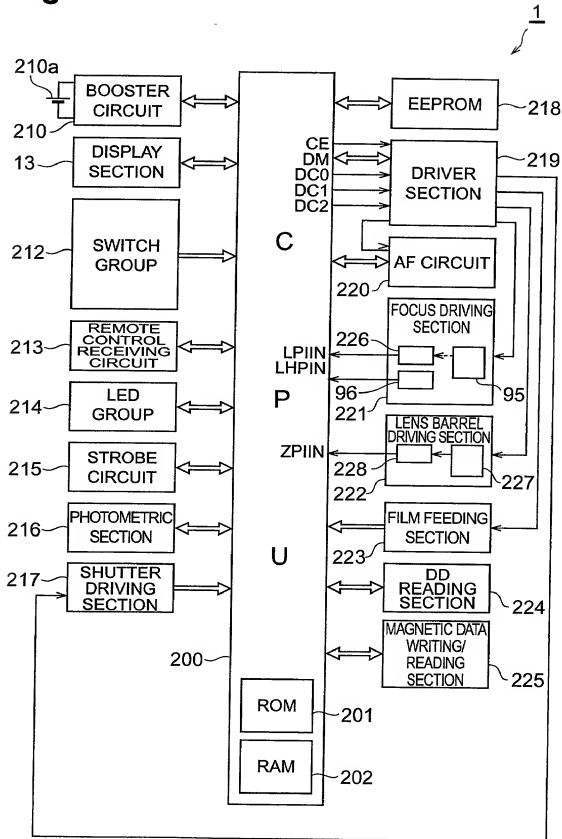


00899191.070601



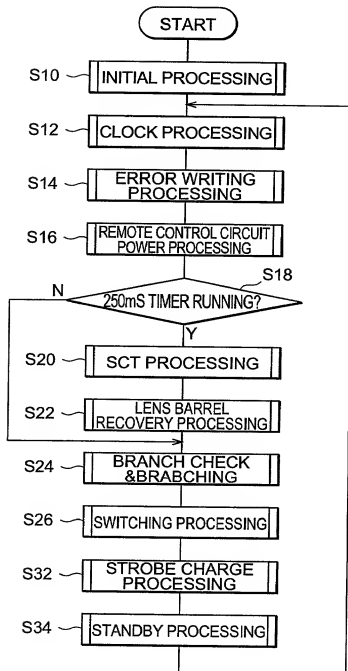


**Fig.16**



000001.070501

**Fig.17**



00000001.070601



**Fig.18**

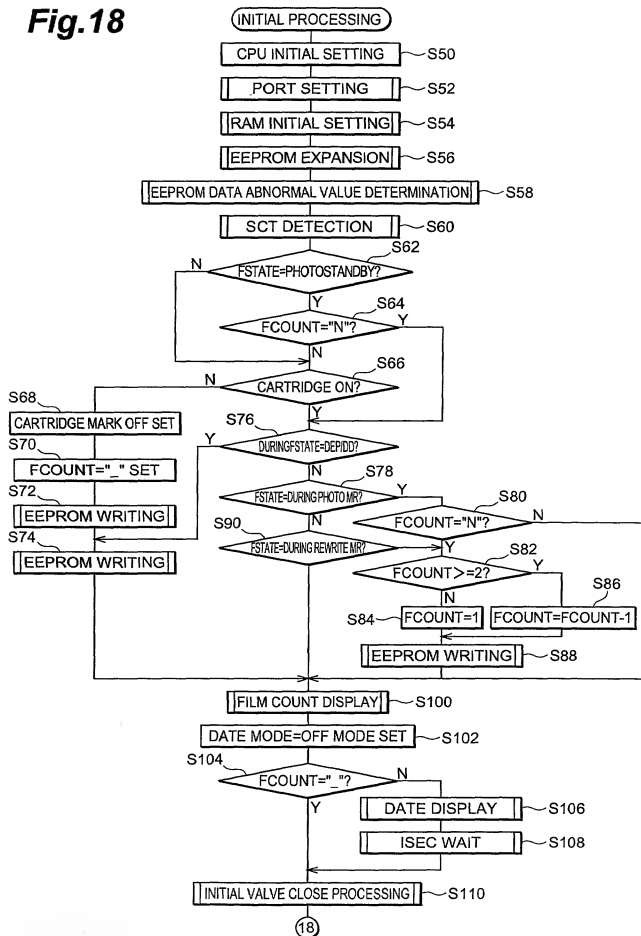
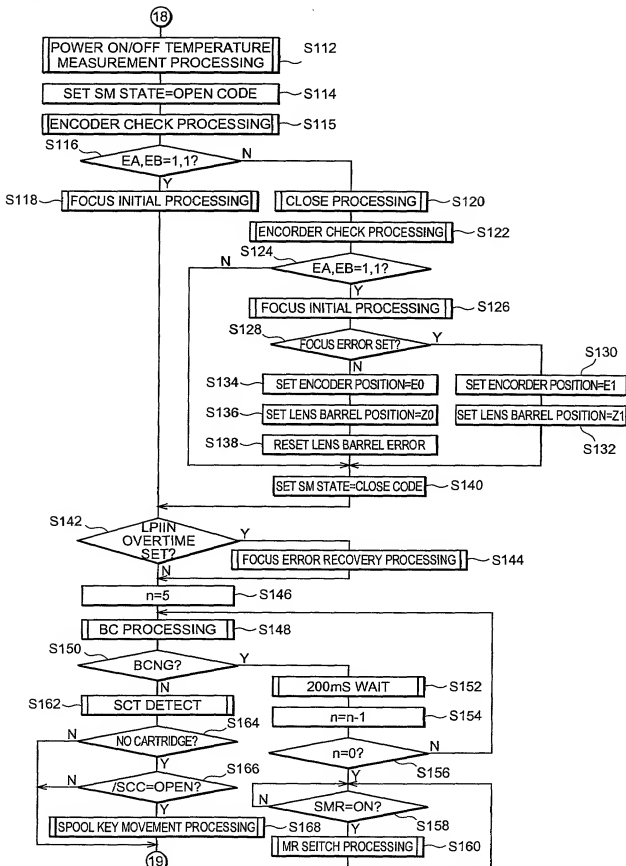
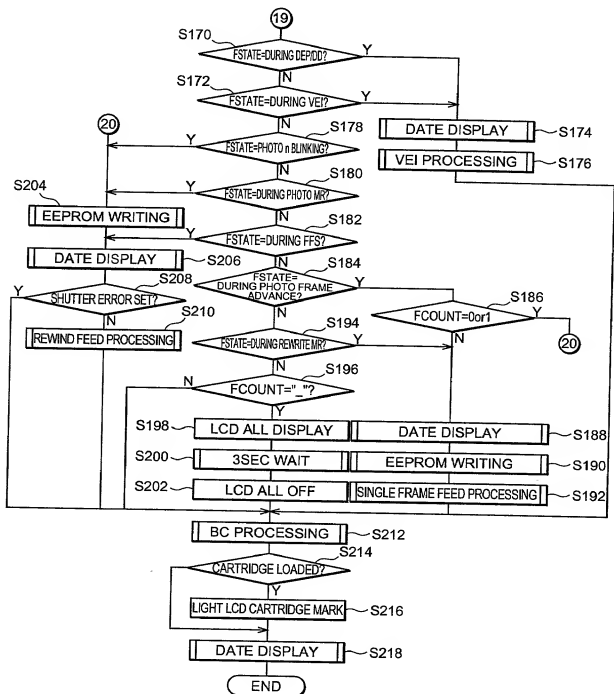


Fig.19



**Fig.20**



00000001.070601

**Fig.21**

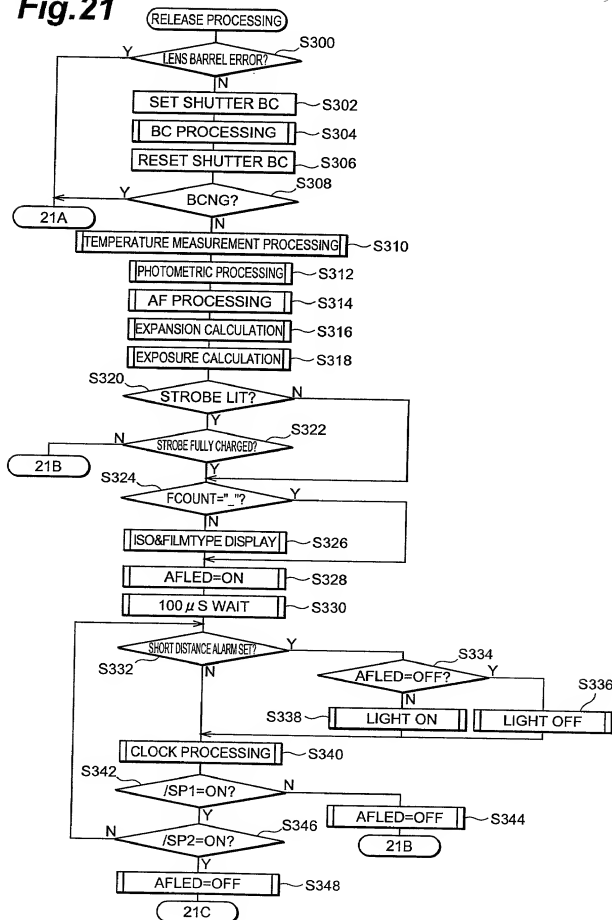
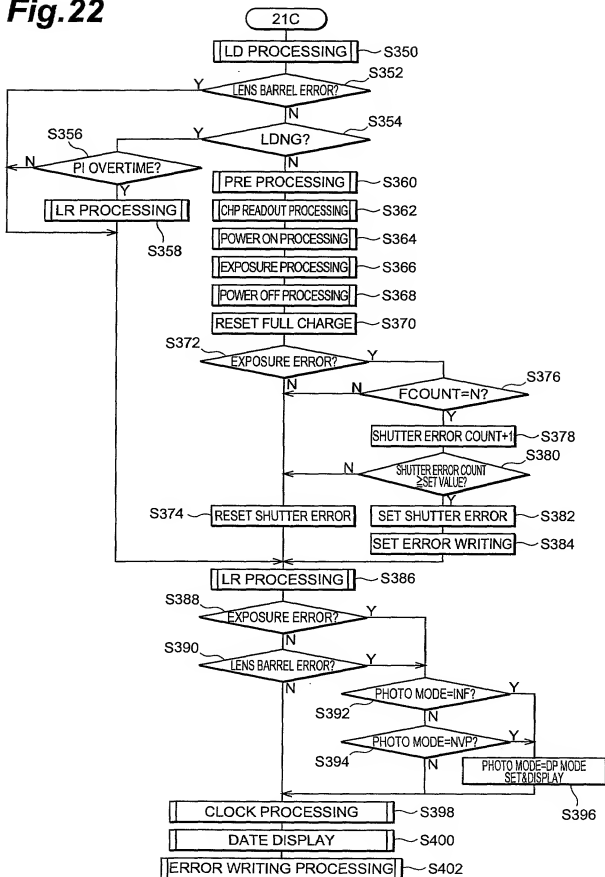
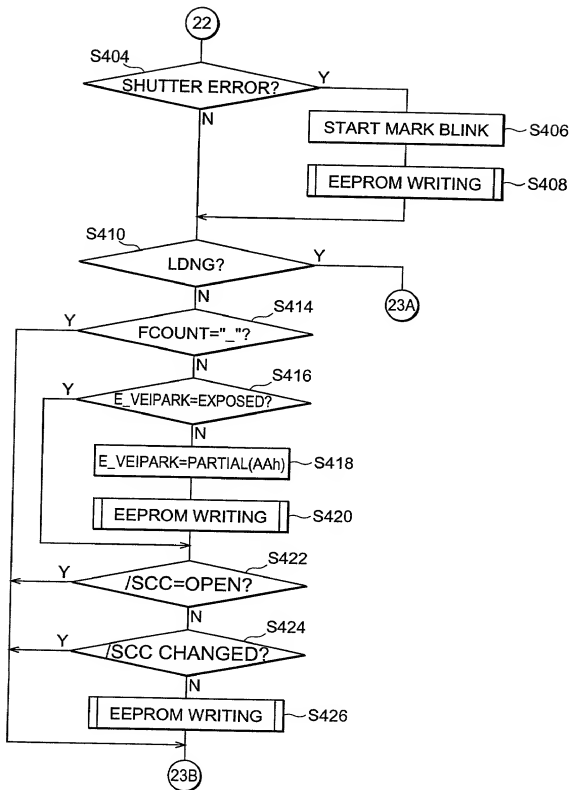


Fig.22

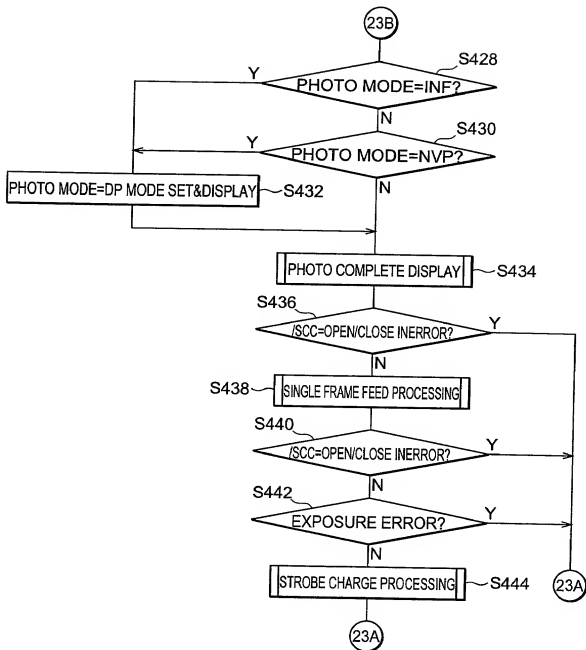


**Fig.23**



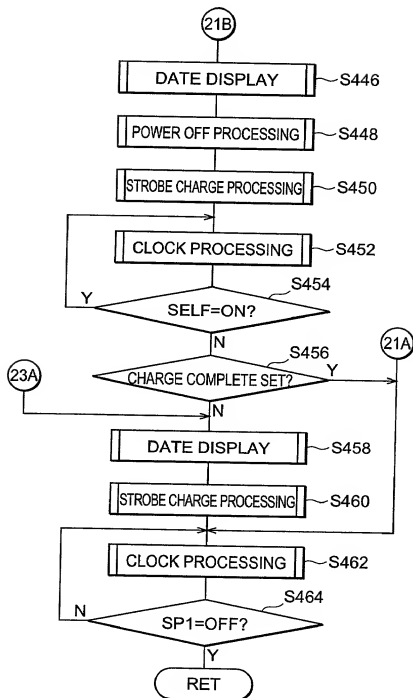
09899191-070601

Fig.24



00000101-070001

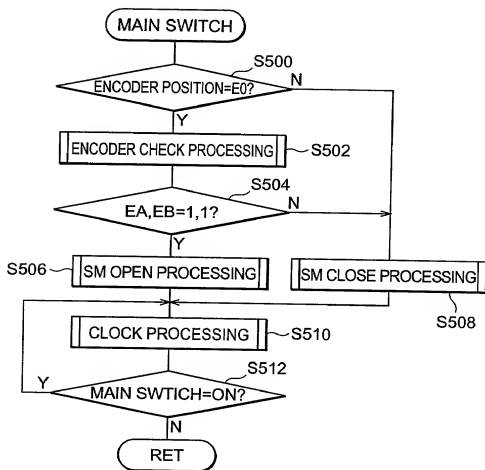
**Fig.25**



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**Fig.26**



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**Fig.27**

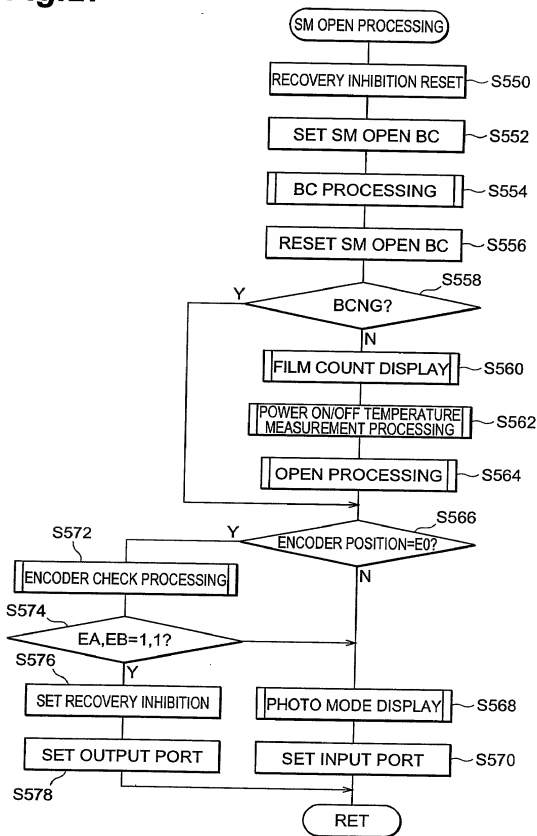
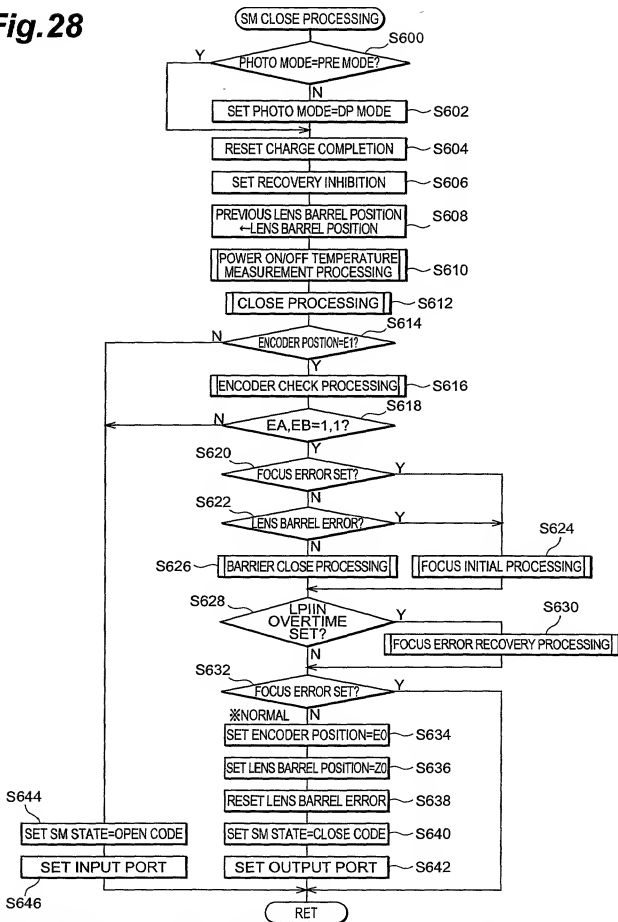
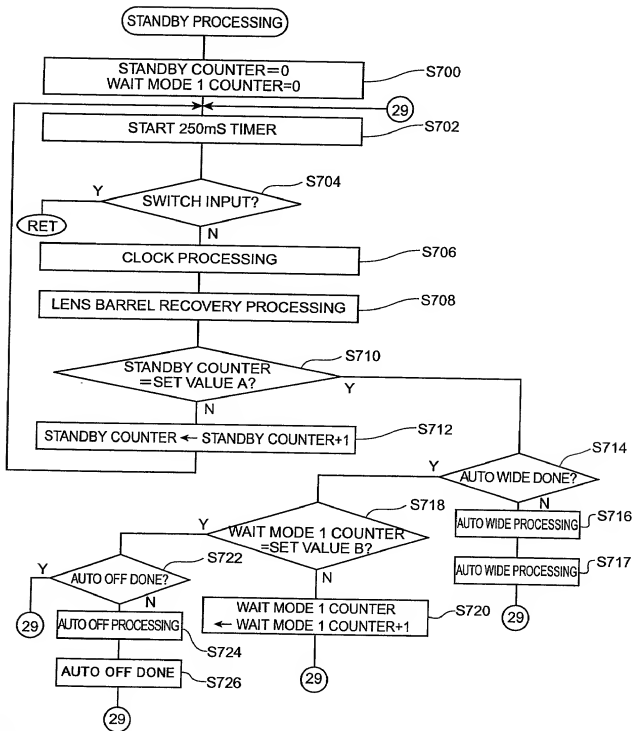


Fig.28

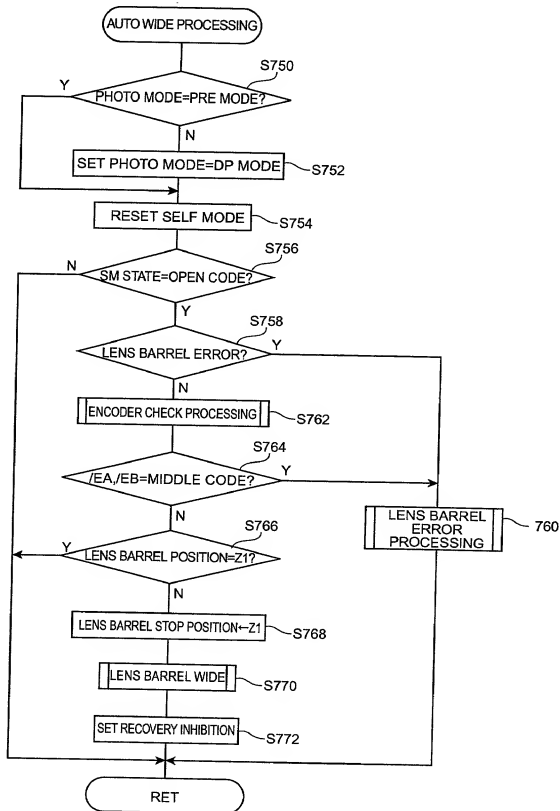


**Fig.29**



00000001-076601

**Fig.30**



0000101.070501

PP016079-00

Fig.31

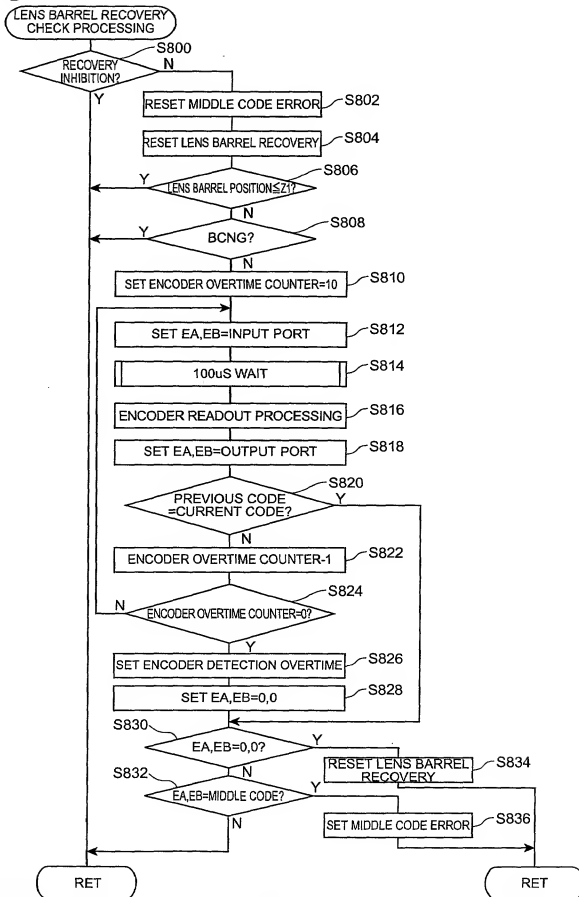
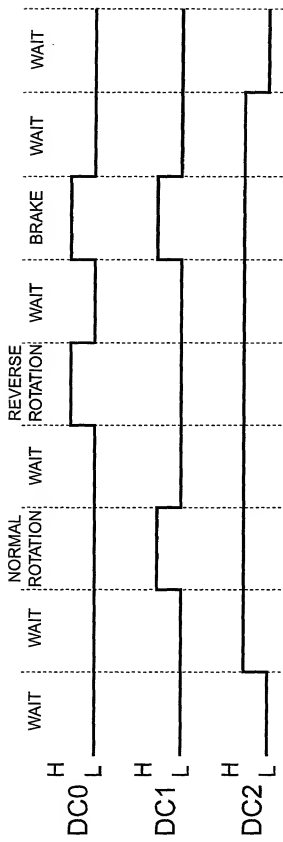


Fig.32



**Fig. 33**

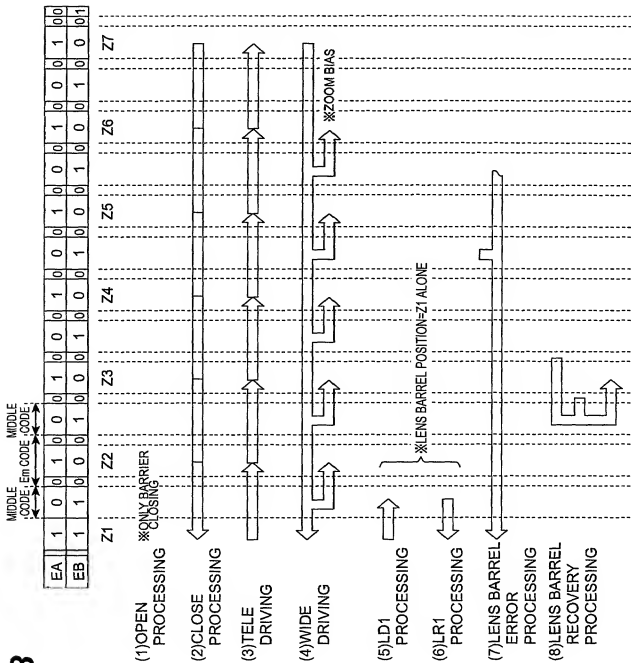
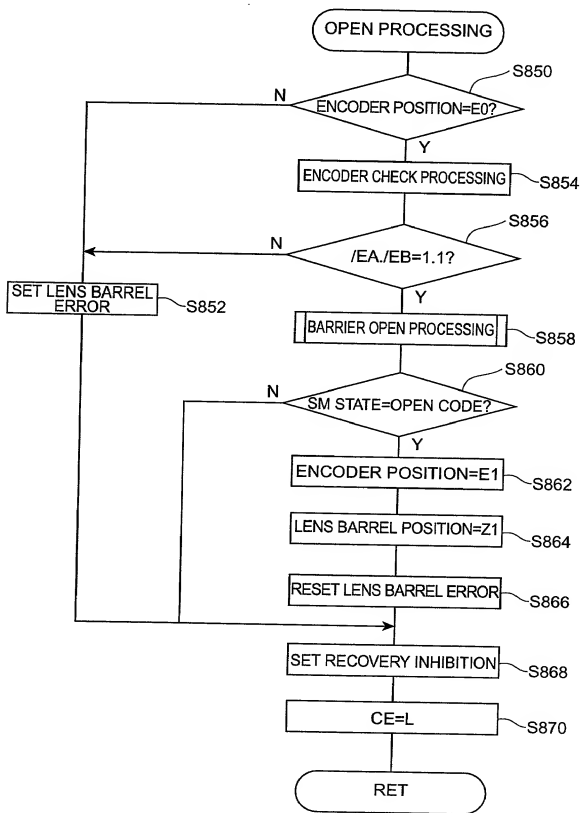


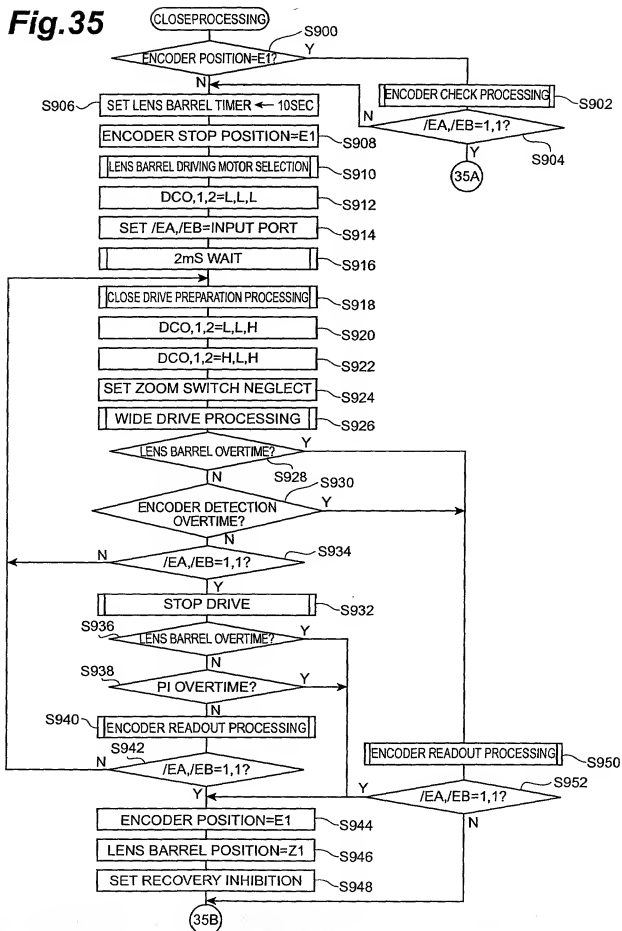


Fig.34

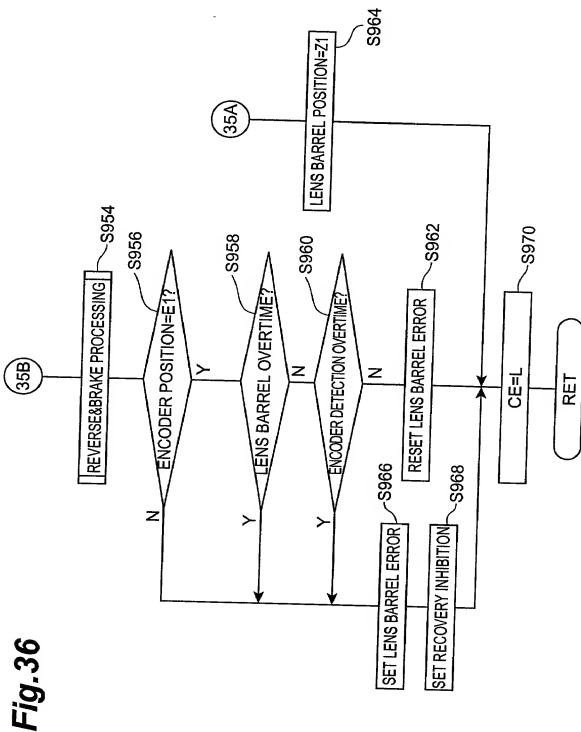


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Fig.35



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FP01-003900

Fig.37

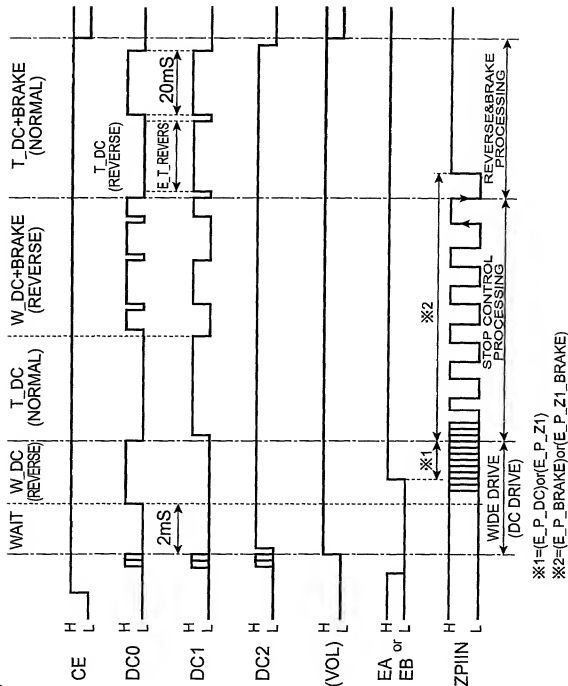
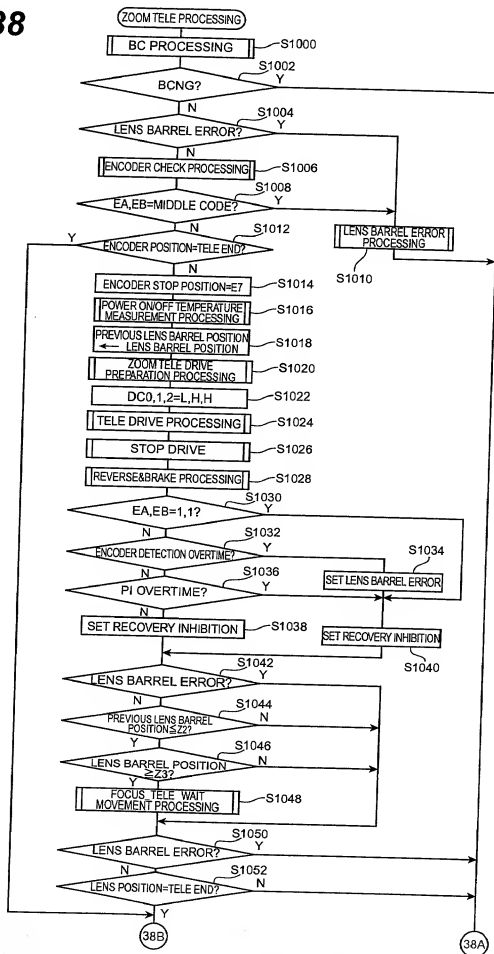
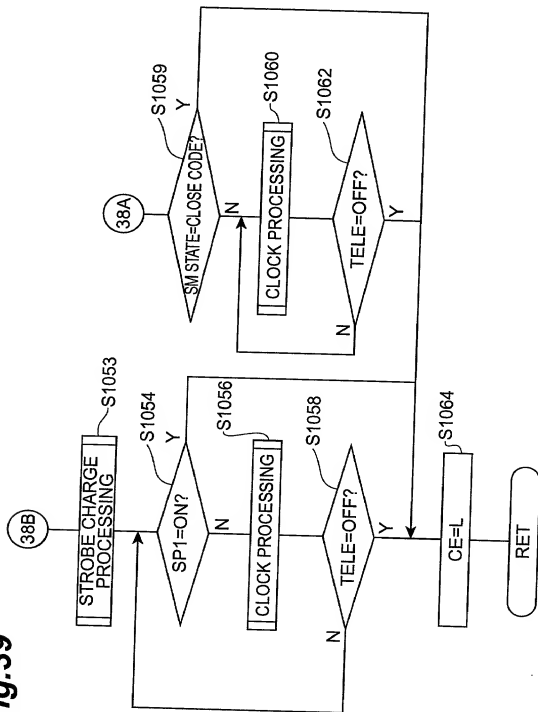


Fig.38



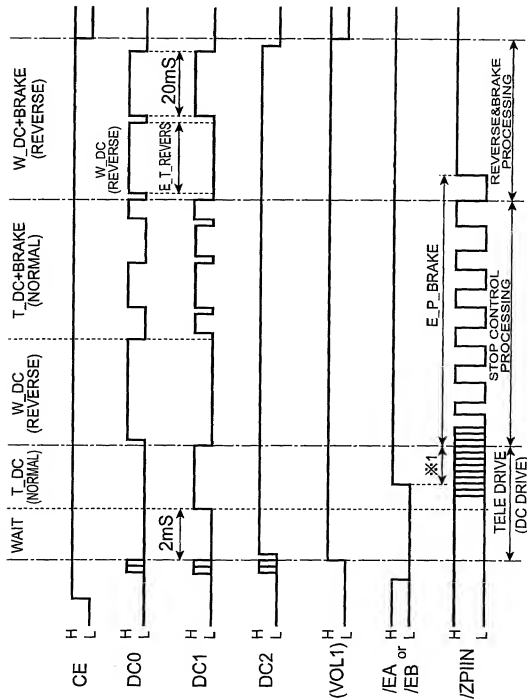
00000001.070601

Fig. 39



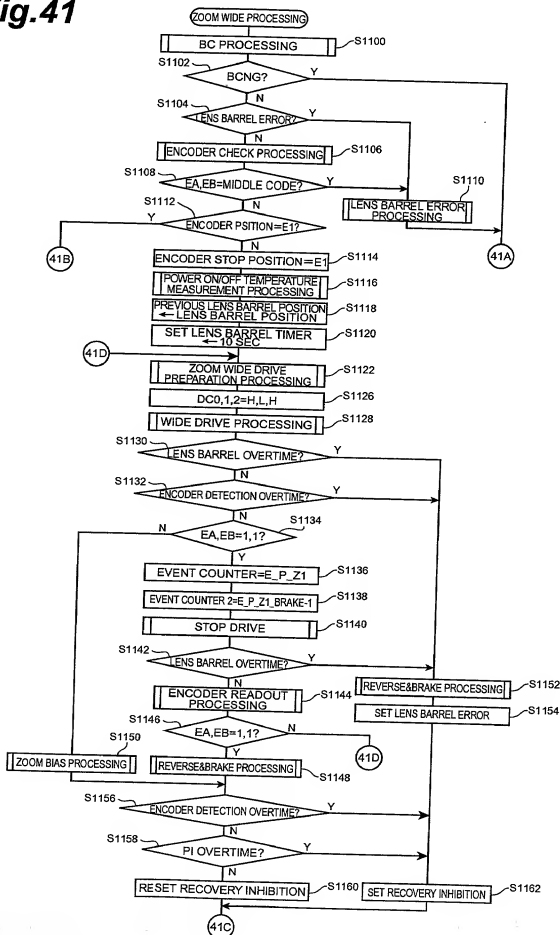
109020" 16155860

Fig.40



※1=(E\_P\_DC)(or)(DRV\_PLS-E\_P\_BRAKE)

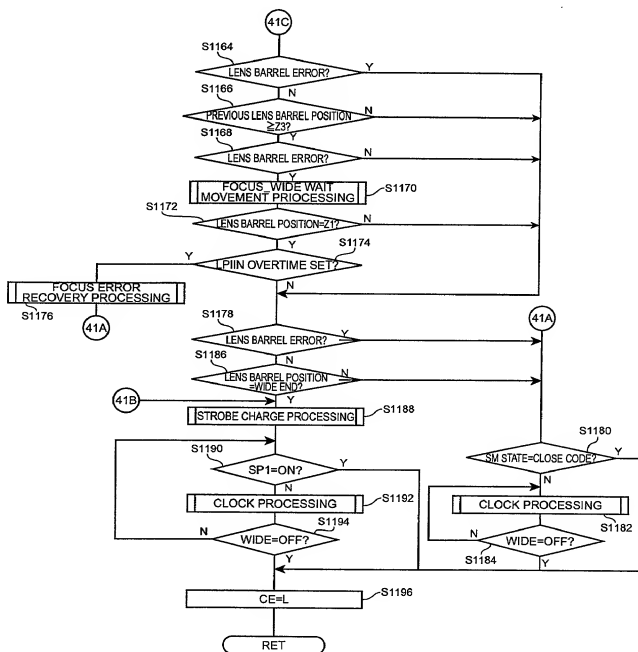
Fig.41



20060101 070601

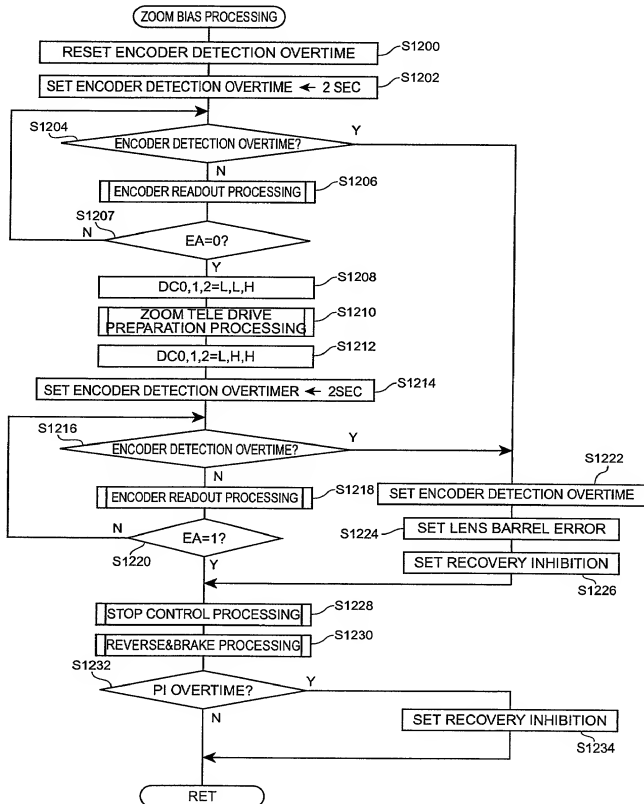


**Fig.42**



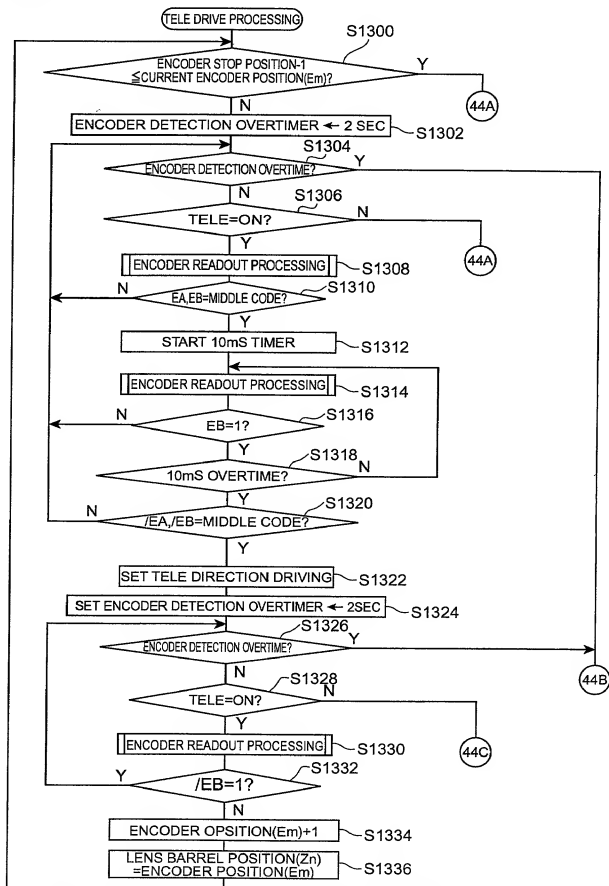
00000101 570601  
 10000101 1016000

**Fig.43**



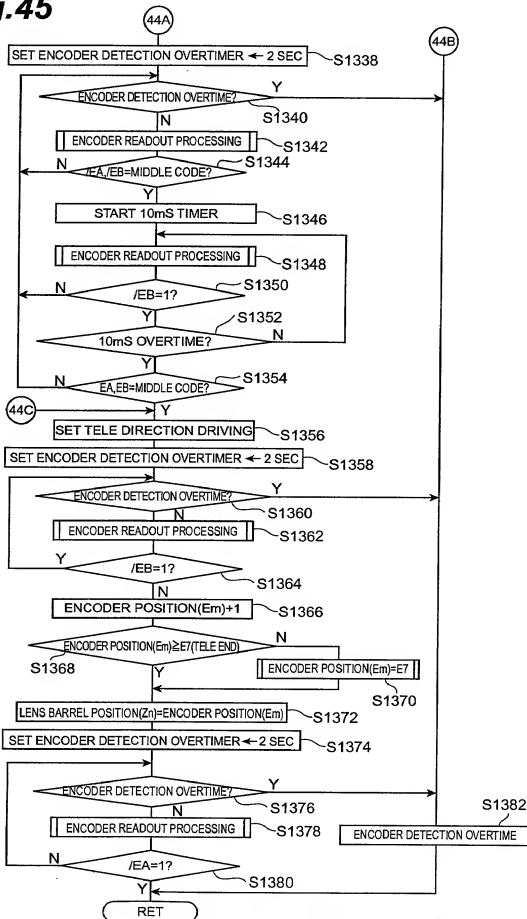
000001-070501

Fig.44



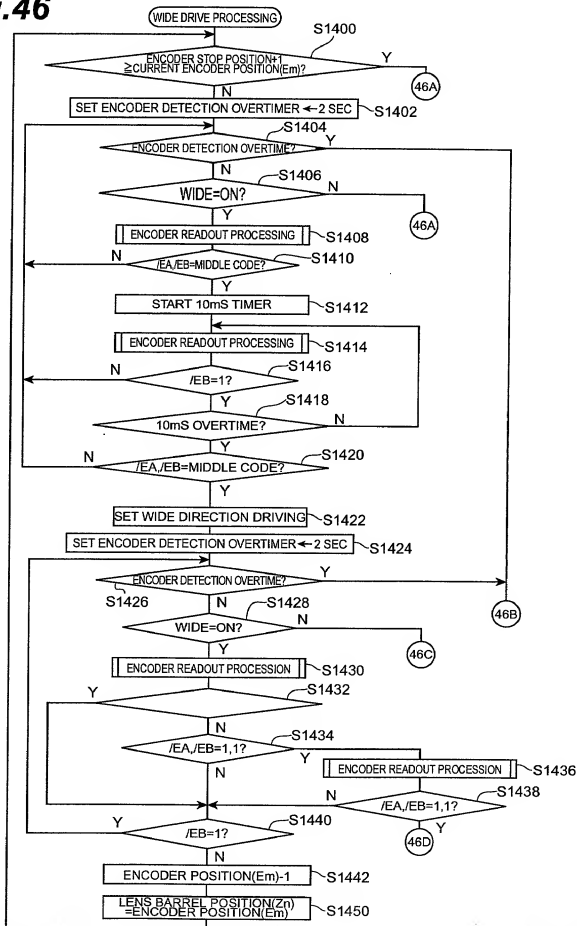
00000101 070601

Fig.45



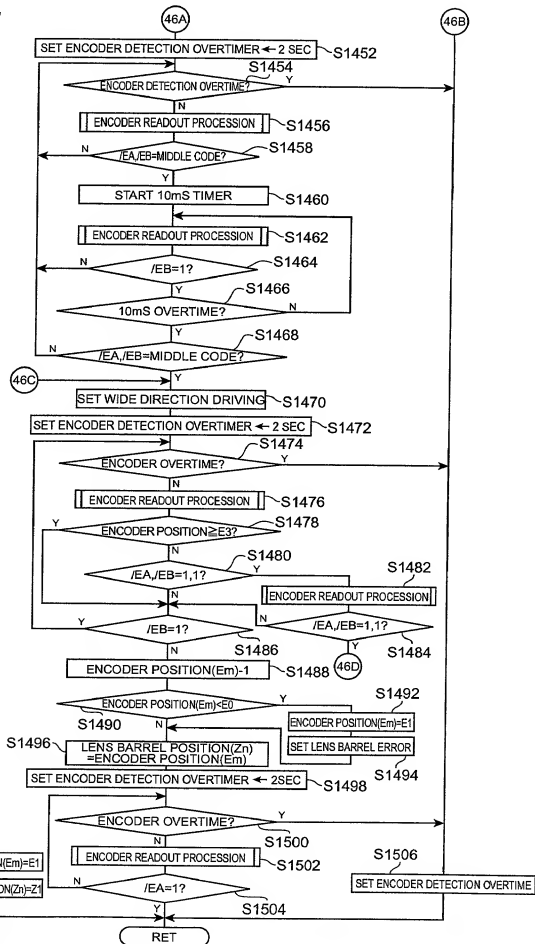
03890101.070601

Fig.46



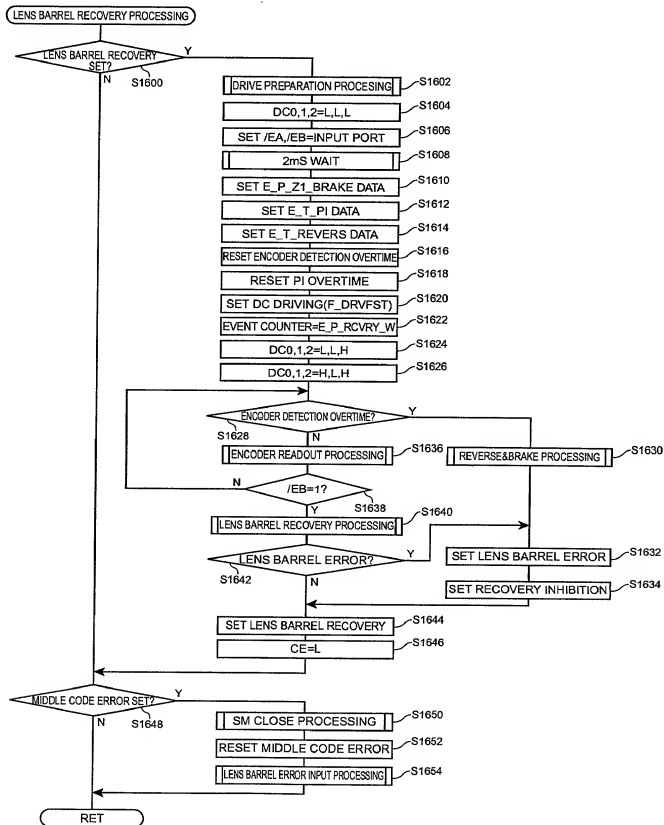
00000001 00000001

Fig.47

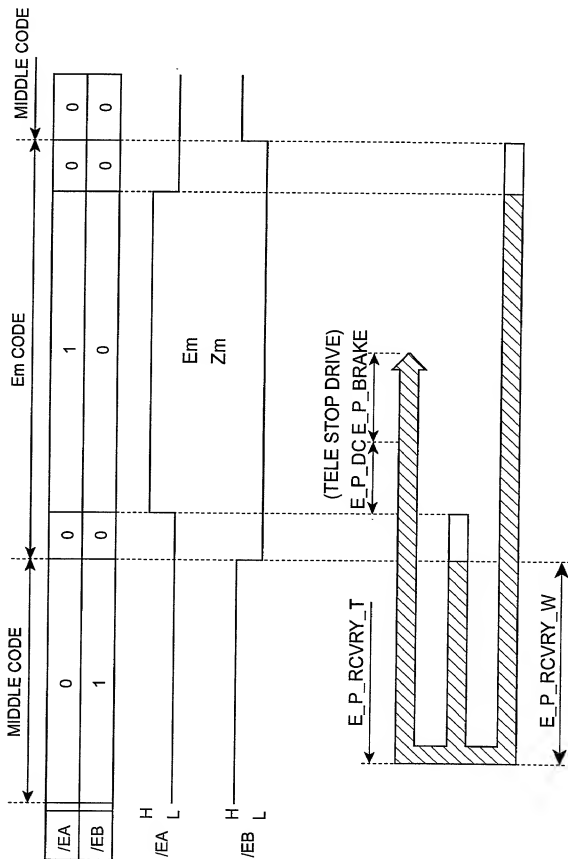


0000131.070601

**Fig.48**

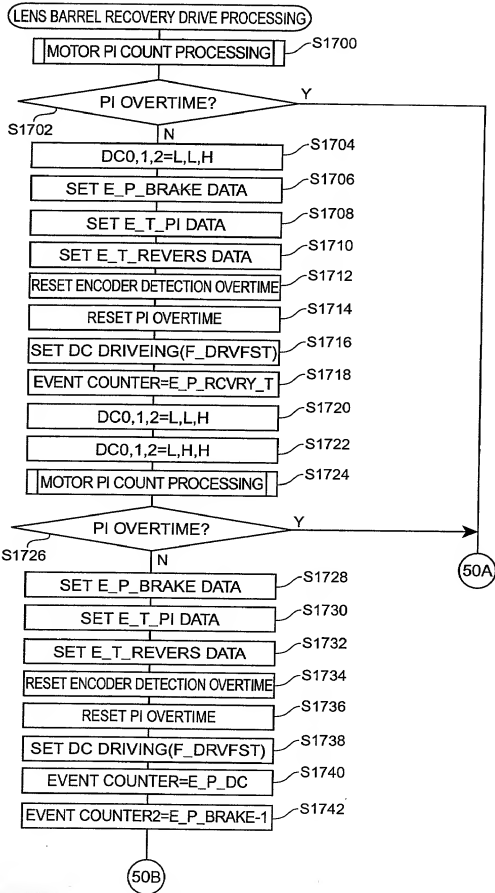


0968-7621(200607)24:7;1-P



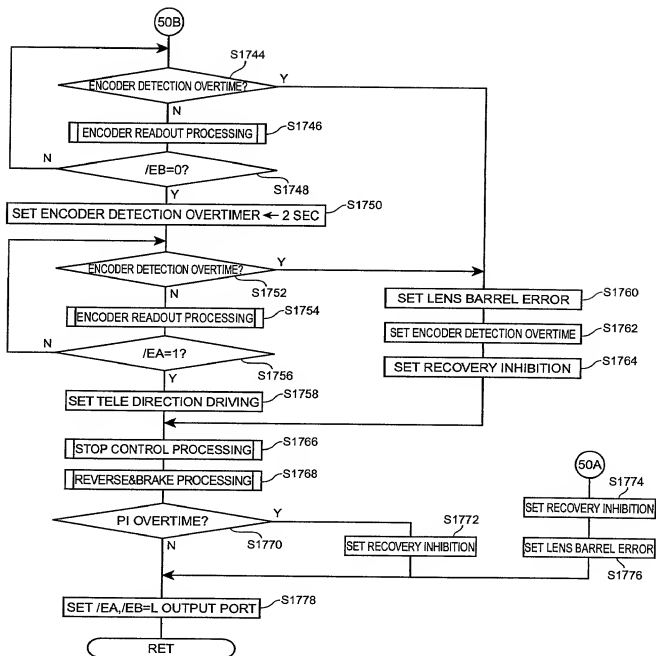


**Fig.50**



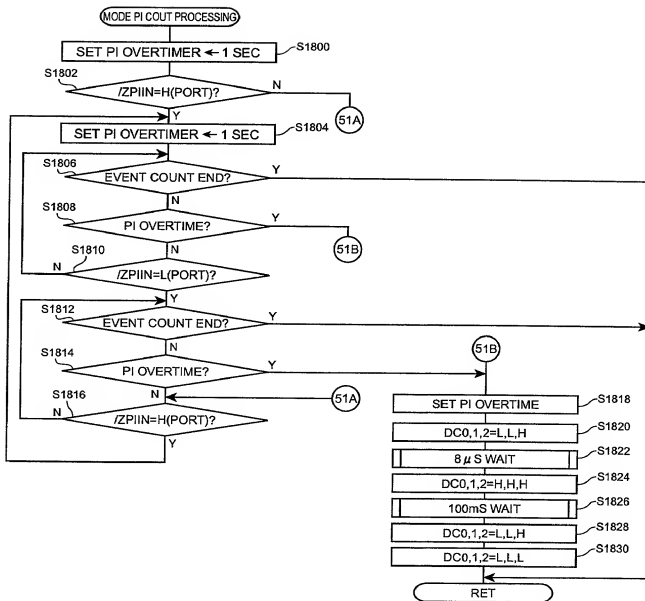
00000101 070601

Fig.51



03600101.070501

Fig.52



0000101.070601

Fig. 53

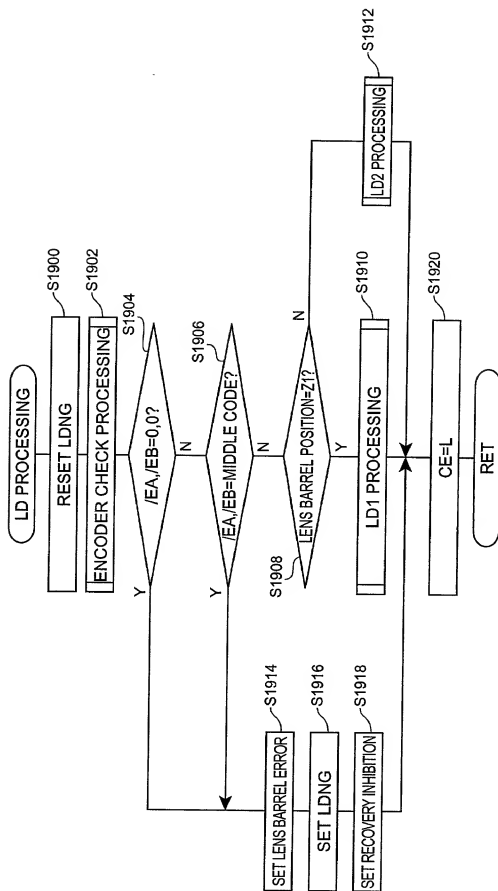


Fig.54

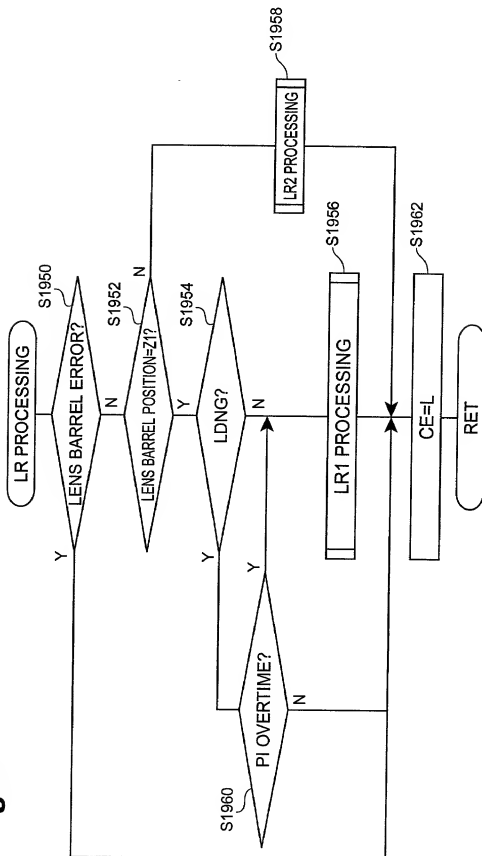


Fig.55

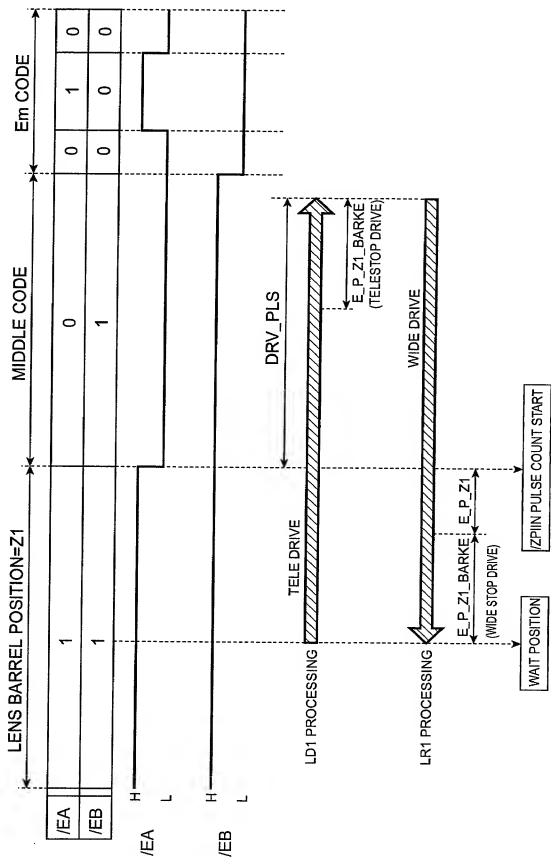
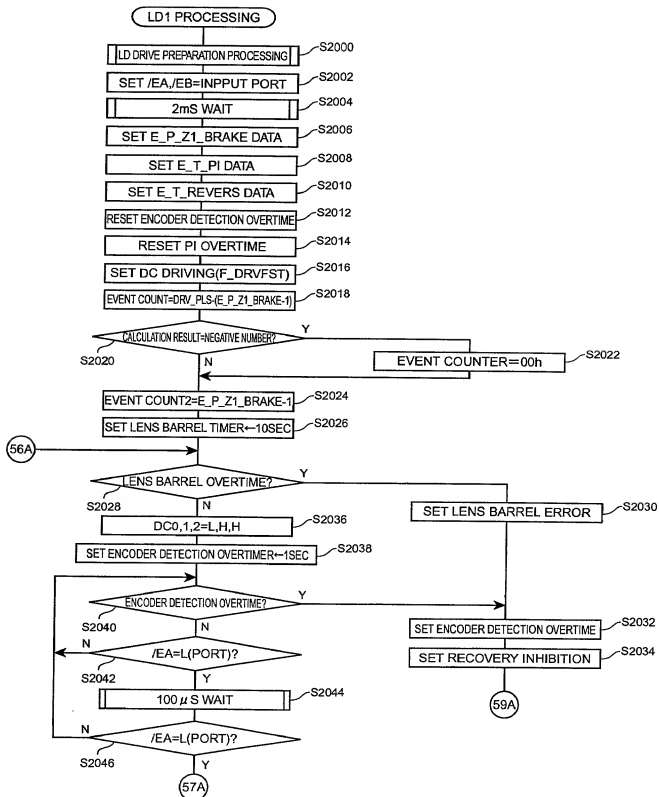
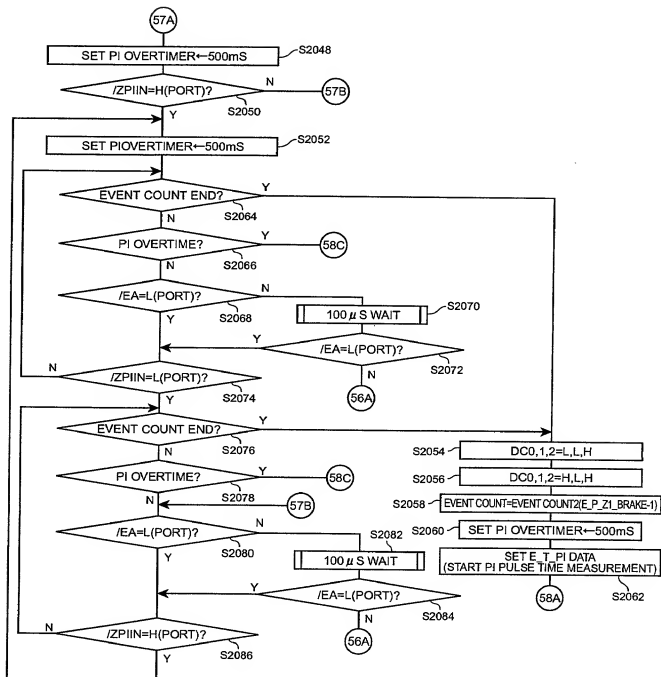


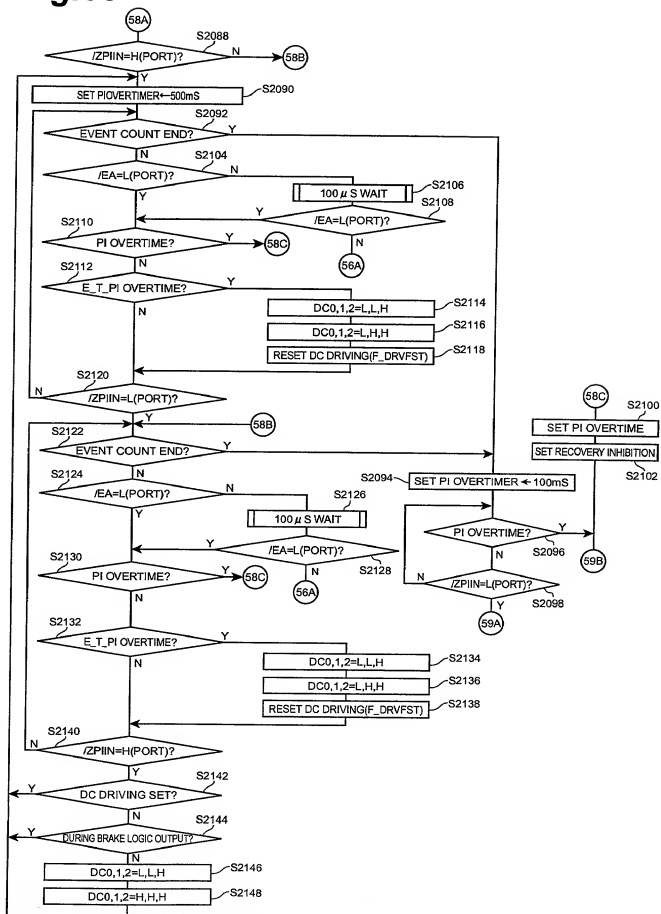
Fig.56



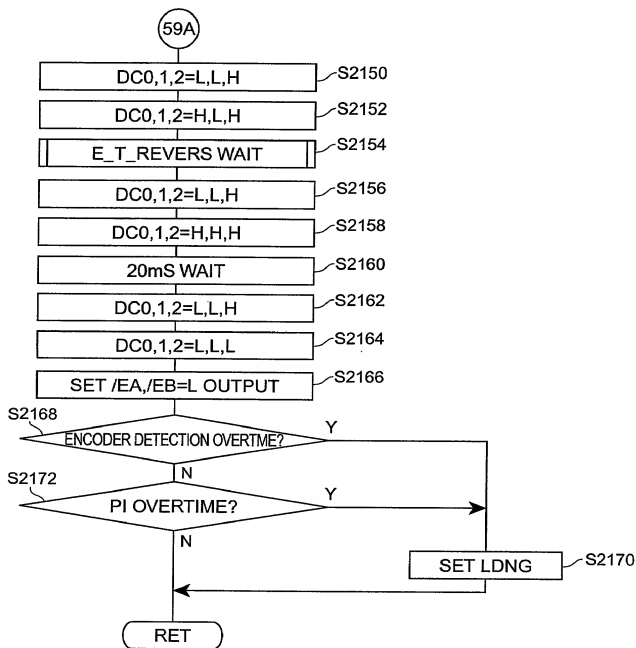
[illegible]



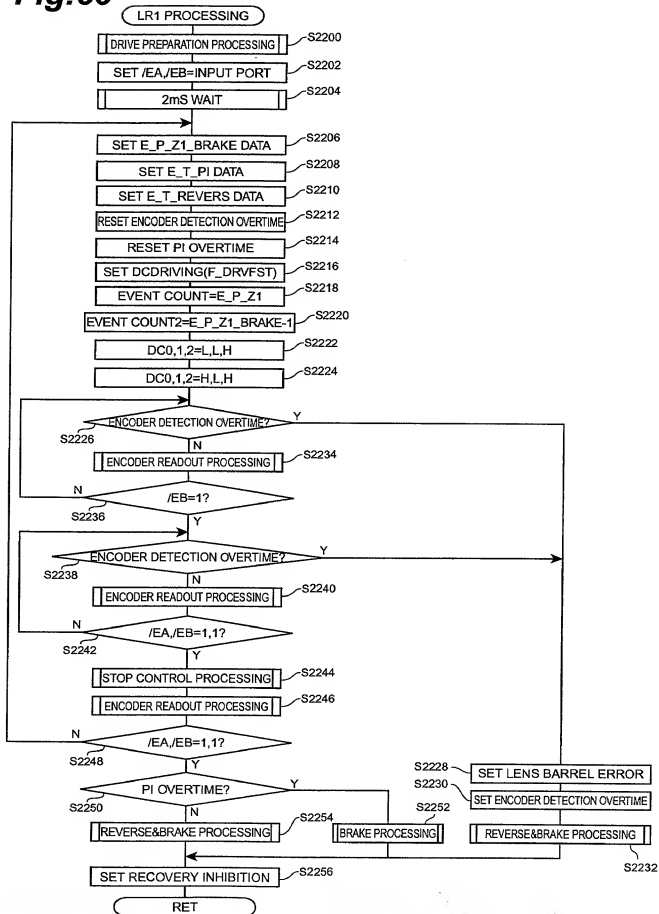
06063670



**Fig.59**



**Fig.60**



**Fig.61**

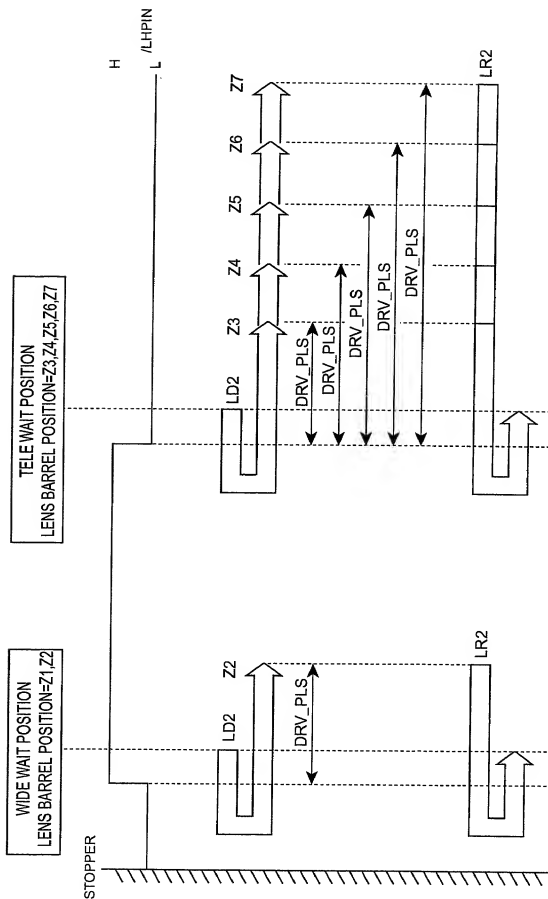
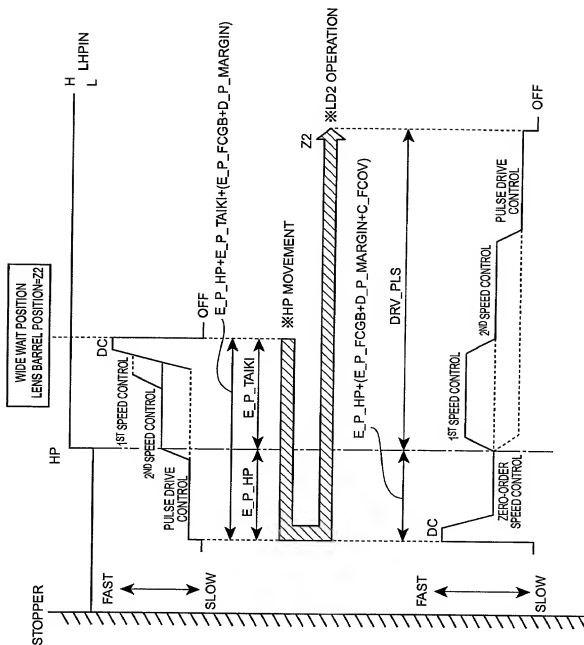


Fig.62



The diagram illustrates the timing sequence for LD2 operation. It features a horizontal timeline with two speed scales: FAST (left) and SLOW (right). Key signals and events include:

- HP (High Power) Signal:** A pulse that transitions from LOW to HIGH at the start of the sequence and returns to LOW after the LD2 operation.
- LHPIN (Low High Power Input) Signal:** A pulse that transitions from LOW to HIGH at the start of the sequence and returns to LOW after the LD2 operation.
- TELE WAIT POSITION (LENS BARREL POSITION=23,24,25,26,27):** A box indicating the lens barrel position during the initial phase.
- DC (Direct Current) Signal:** A pulse that transitions from LOW to HIGH at the start of the sequence and returns to LOW after the LD2 operation.
- 1st SPEED CONTROL:** A pulse that transitions from LOW to HIGH at the start of the sequence and returns to LOW after the LD2 operation.
- 2nd SPEED CONTROL:** A pulse that transitions from LOW to HIGH at the start of the sequence and returns to LOW after the LD2 operation.
- PULSE DRIVE CONTROL:** A pulse that transitions from LOW to HIGH at the start of the sequence and returns to LOW after the LD2 operation.
- HP MOVEMENT:** A shaded rectangular area indicating the duration of high power movement.
- LD2 OPERATION:** A shaded rectangular area indicating the duration of the LD2 operation.
- DRV\_PLS (Drive Pulse):** A pulse that transitions from LOW to HIGH at the start of the sequence and returns to LOW after the LD2 operation.
- 1st SPEED CONTROL (SLOW):** A pulse that transitions from LOW to HIGH at the start of the sequence and returns to LOW after the LD2 operation.
- 2nd SPEED CONTROL (SLOW):** A pulse that transitions from LOW to HIGH at the start of the sequence and returns to LOW after the LD2 operation.
- PULSE DRIVE CONTROL (SLOW):** A pulse that transitions from LOW to HIGH at the start of the sequence and returns to LOW after the LD2 operation.
- ZERO-ORDER SPEED CONTROL:** A pulse that transitions from LOW to HIGH at the start of the sequence and returns to LOW after the LD2 operation.
- OFF:** The final state of the signals after the LD2 operation.

Fig.64

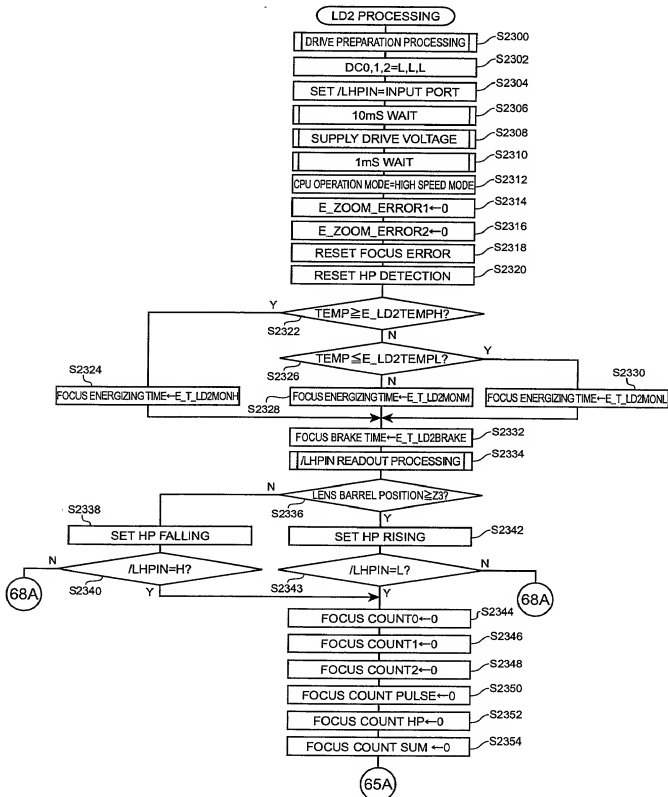
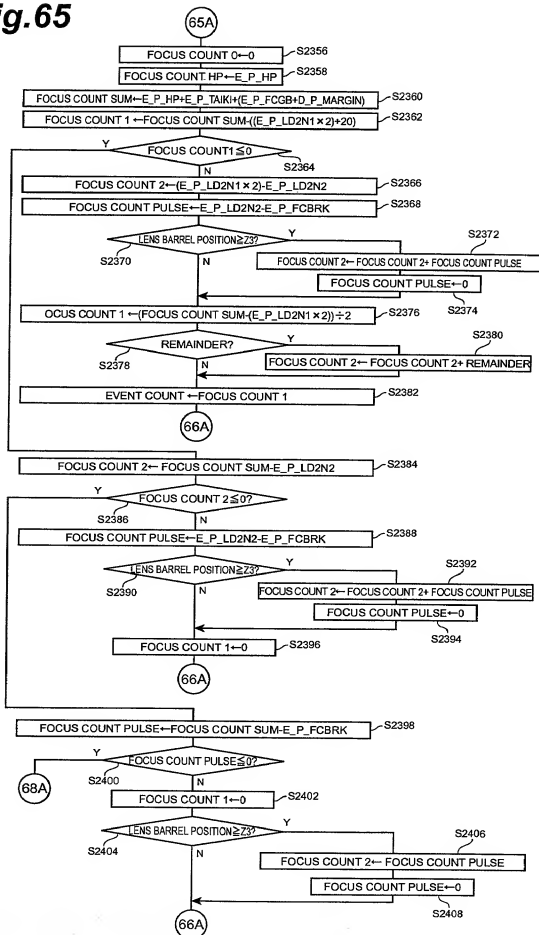


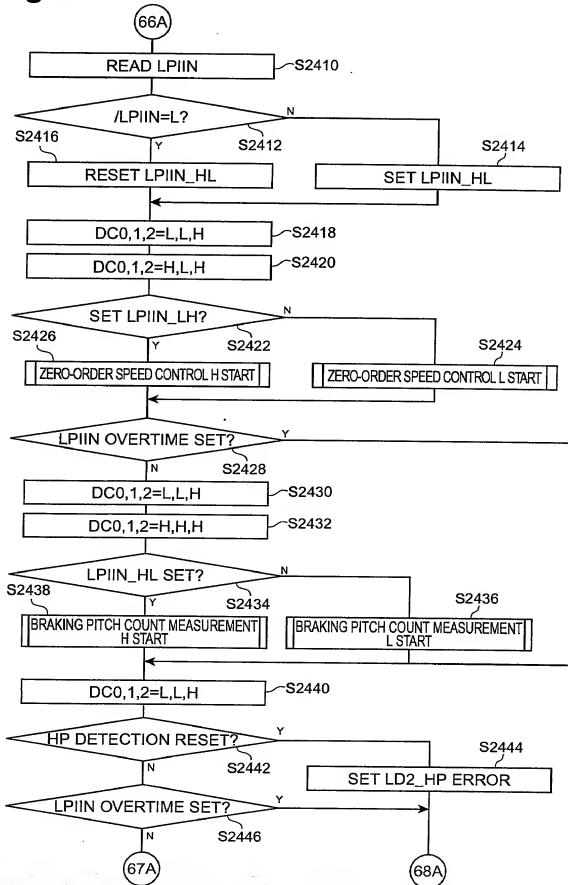
Fig.65



000001-000001



Fig.66



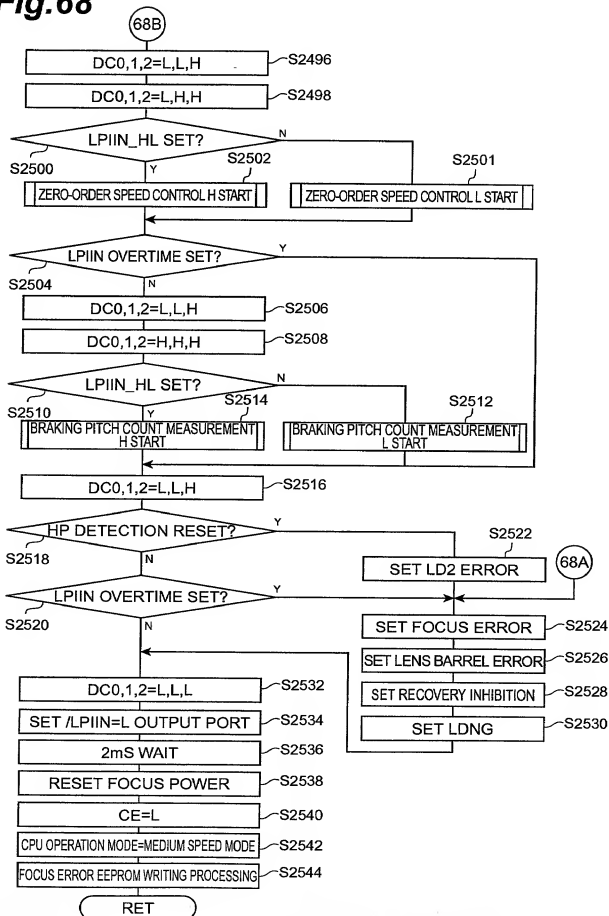
```

graph TD
    Start((67A)) --> S2448[//LHPIN READOUT PROCESSING]
    S2448 --> S2452{LENS BARREL POSITION ≥ Z3?}
    S2452 -- N --> S2454{ //LHPIN=L? }
    S2452 -- Y --> S2450[SET HP FALLING]
    S2454 -- N --> 68A((68A))
    S2454 -- Y --> S2458{ //LHPIN=H? }
    S2450 --> S2458
    S2458 -- N --> 68A
    S2458 -- Y --> S2460[FOCUS COUNT 0 ← E_P_HP + (E_P_FCGB + D_P_MARGIN + C_FCOV)]
    S2460 --> S2462[FOCUS COUNT HP ← 0]
    S2462 --> S2464[FOCUS COUNT SUM ← DRV_PLS]
    S2464 --> S2466[FOCUS COUNT 1 ← FOCUS COUNT SUM - (E_P_LD2N1 × 2) + 20]
    S2466 --> S2468{FOCUS COUNT 1 ≤ 0?}
    S2468 -- Y --> S2470[FOCUS COUNT 2 ← (E_P_LD2N1 × 2) - E_P_LD2N2]
    S2468 -- N --> S2470
    S2470 --> S2472[FOCUS COUNT PULSE ← E_P_LD2N2 - E_P_FCBRK]
    S2472 --> S2473[FOCUS COUNT 1 ← (FOCUS COUNT SUM - (E_P_LD2N1 × 2)) ÷ 2]
    S2473 --> S2474{REMAINDER?}
    S2474 -- Y --> S2476[FOCUS COUNT 2 ← FOCUS COUNT 2 + REINDER]
    S2474 -- N --> S2478[EVENT COUNT ← FOCUS COUNT HT]
    S2476 --> S2478
    S2478 --> 68B((68B))
    68B --> S2480[FOCUS COUNT 2 ← FOCUS COUNT SUM - E_P_LD2N2]
    S2480 --> S2482{FOCUS COUNT 2 ≤ 0?}
    S2482 -- Y --> S2484[FOCUS COUNT PULSE ← E_P_LD2N2 - E_P_FCBRK]
    S2482 -- N --> S2486[FOCUS COUNT 1 ← 0]
    S2484 --> S2486
    S2486 --> 68B
    68B --> S2488[FOCUS COUNT PULSE ← FOCUS COUNT SUM - E_P_FCBRK]
    S2488 --> S2490{FOCUS COUNT PULSE ≤ 0?}
    S2490 -- Y --> 68A
    S2490 -- N --> S2492[FOCUS COUNT 1 ← 0]
    S2492 --> S2494[FOCUS COUNT 2 ← 0]
    S2494 --> 68B
  
```

Flowchart illustrating the LHPIN READOUT PROCESSING routine (Fig. 67A):

- Start at 67A, proceed to S2448: //LHPIN READOUT PROCESSING.
- Decision S2452: LENS BARREL POSITION  $\geq Z3$ ?
  - If N: Proceed to S2454: //LHPIN=L?
  - If Y: Proceed to S2450: SET HP FALLING.
- Decision S2454: //LHPIN=L?
  - If N: Proceed to 68A.
  - If Y: Proceed to S2458: //LHPIN=H?
- Decision S2458: //LHPIN=H?
  - If N: Proceed to 68A.
  - If Y: Proceed to S2460: FOCUS COUNT 0  $\leftarrow E\_P\_HP + (E\_P\_FCGB + D\_P\_MARGIN + C\_FCOV)$ .
- S2462: FOCUS COUNT HP  $\leftarrow 0$ .
- S2464: FOCUS COUNT SUM  $\leftarrow DRV\_PLS$ .
- S2466: FOCUS COUNT 1  $\leftarrow FOCUS\ COUNT\ SUM - (E\_P\_LD2N1 \times 2) + 20$ .
- Decision S2468: FOCUS COUNT 1  $\leq 0$ ?
  - If Y: Proceed to S2470: FOCUS COUNT 2  $\leftarrow (E\_P\_LD2N1 \times 2) - E\_P\_LD2N2$ .
  - If N: Proceed to S2470.
- S2472: FOCUS COUNT PULSE  $\leftarrow E\_P\_LD2N2 - E\_P\_FCBRK$ .
- S2473: FOCUS COUNT 1  $\leftarrow (FOCUS\ COUNT\ SUM - (E\_P\_LD2N1 \times 2)) \div 2$ .
- Decision S2474: REMAINDER?
  - If Y: Proceed to S2476: FOCUS COUNT 2  $\leftarrow FOCUS\ COUNT\ 2 + REINDER$ .
  - If N: Proceed to S2478: EVENT COUNT  $\leftarrow FOCUS\ COUNT\ HT$ .
- S2476 and S2478 lead to 68B.
- 68B leads to S2480: FOCUS COUNT 2  $\leftarrow FOCUS\ COUNT\ SUM - E\_P\_LD2N2$ .
- Decision S2482: FOCUS COUNT 2  $\leq 0$ ?
  - If Y: Proceed to S2484: FOCUS COUNT PULSE  $\leftarrow E\_P\_LD2N2 - E\_P\_FCBRK$ .
  - If N: Proceed to S2486: FOCUS COUNT 1  $\leftarrow 0$ .
- S2484 and S2486 lead to 68B.
- 68B leads to S2488: FOCUS COUNT PULSE  $\leftarrow FOCUS\ COUNT\ SUM - E\_P\_FCBRK$ .
- Decision S2490: FOCUS COUNT PULSE  $\leq 0$ ?
  - If Y: Proceed to 68A.
  - If N: Proceed to S2492: FOCUS COUNT 1  $\leftarrow 0$ .
- S2492 leads to S2494: FOCUS COUNT 2  $\leftarrow 0$ .
- S2494 leads to 68B.

Fig.68



00800191.070601

Fig. 69

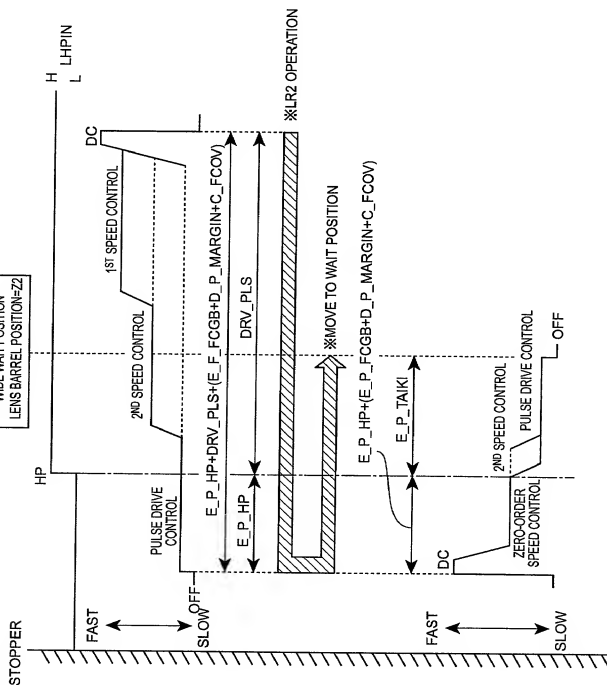
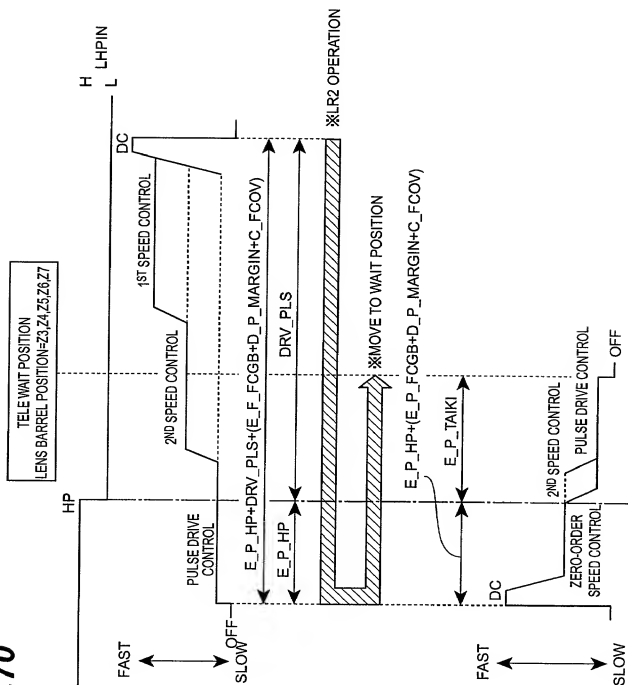


Fig.70



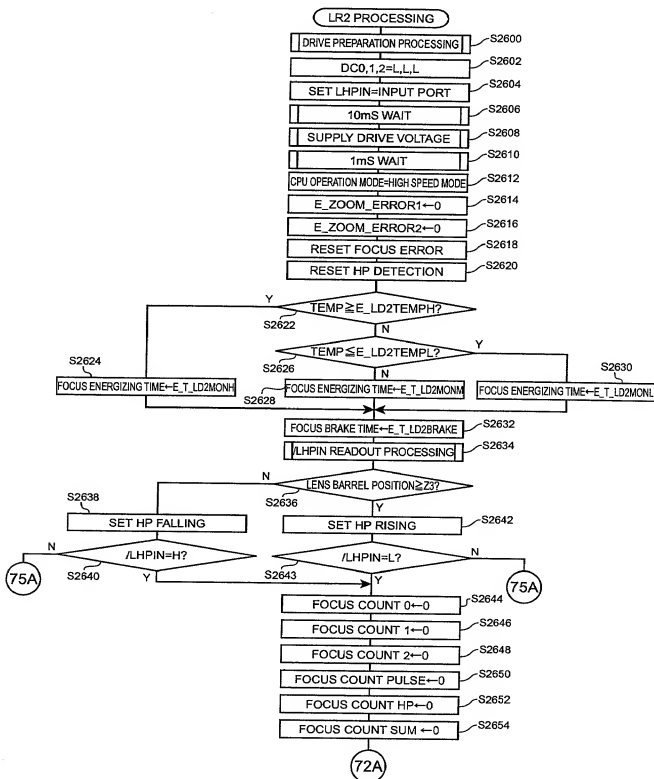
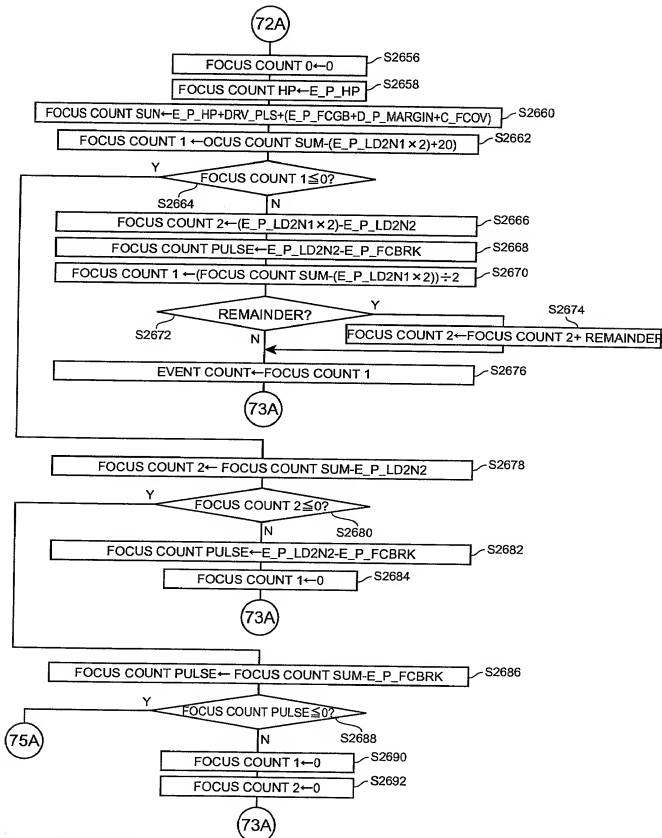
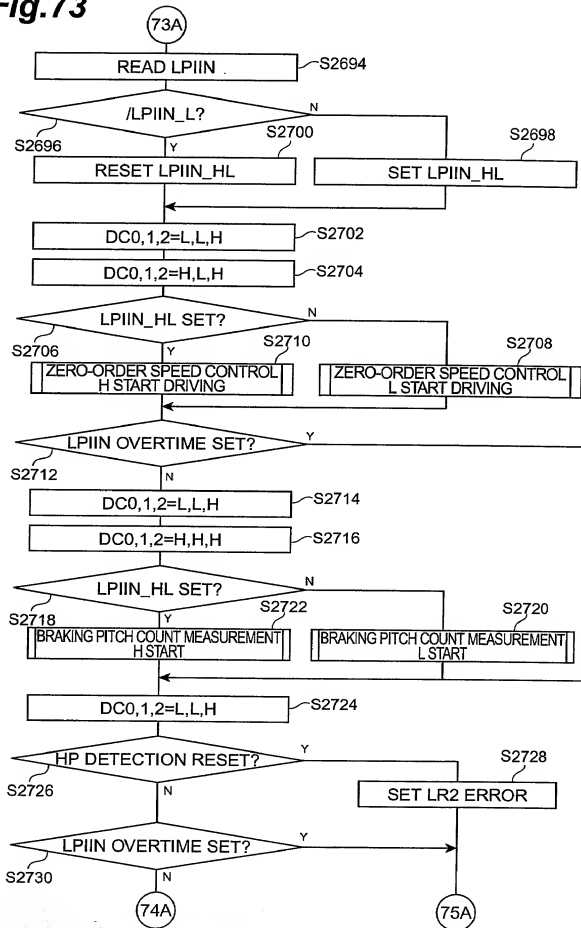
[illegible]

Fig.72



09609191.070601

Fig.73



00000191 070601



Fig.74

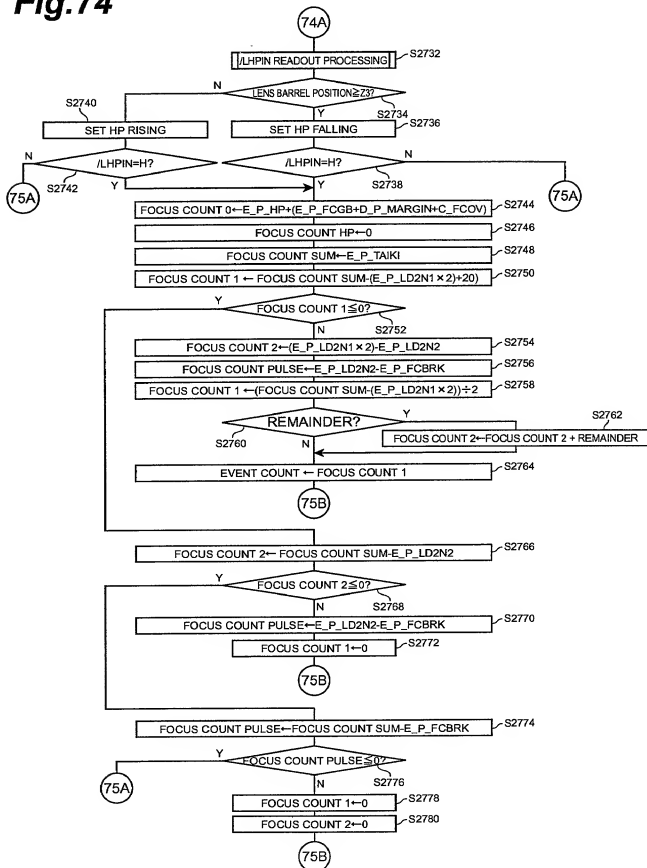
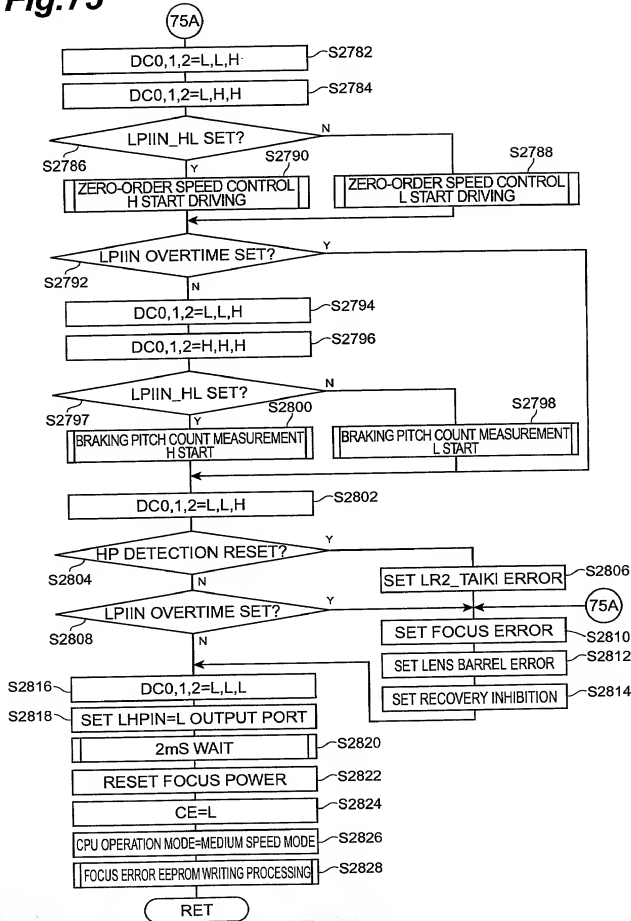
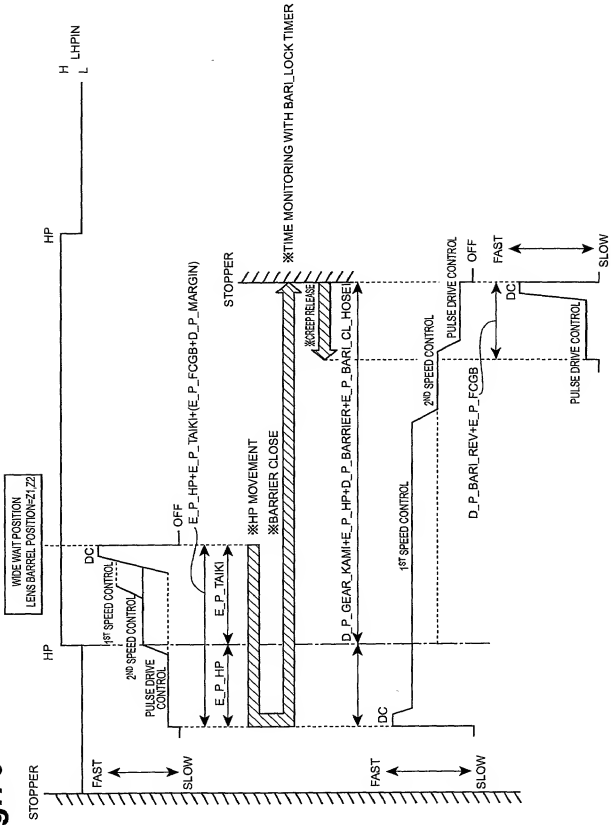


Fig.75



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Fig.76



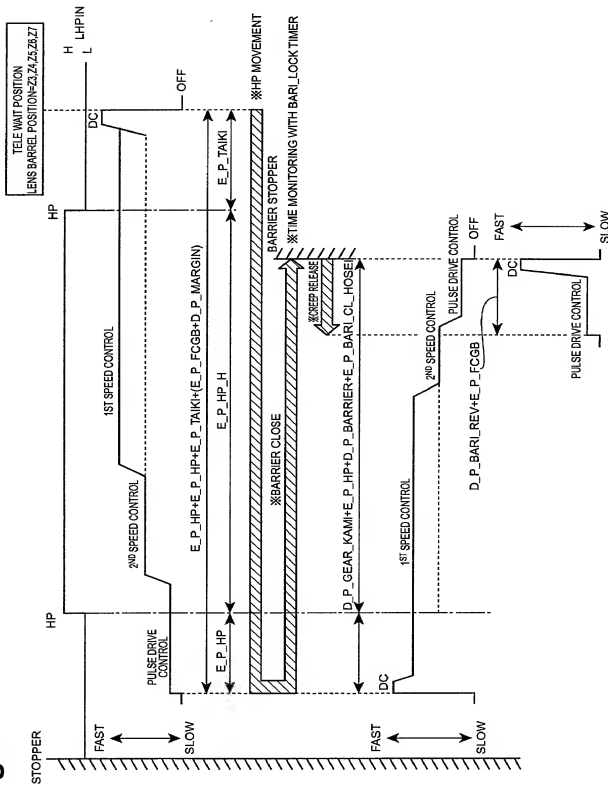


Fig.78

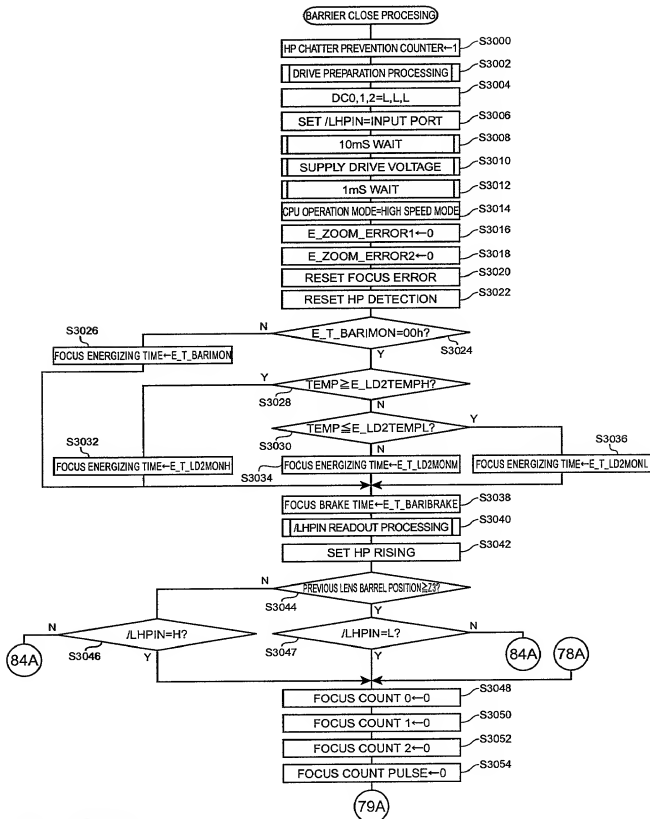
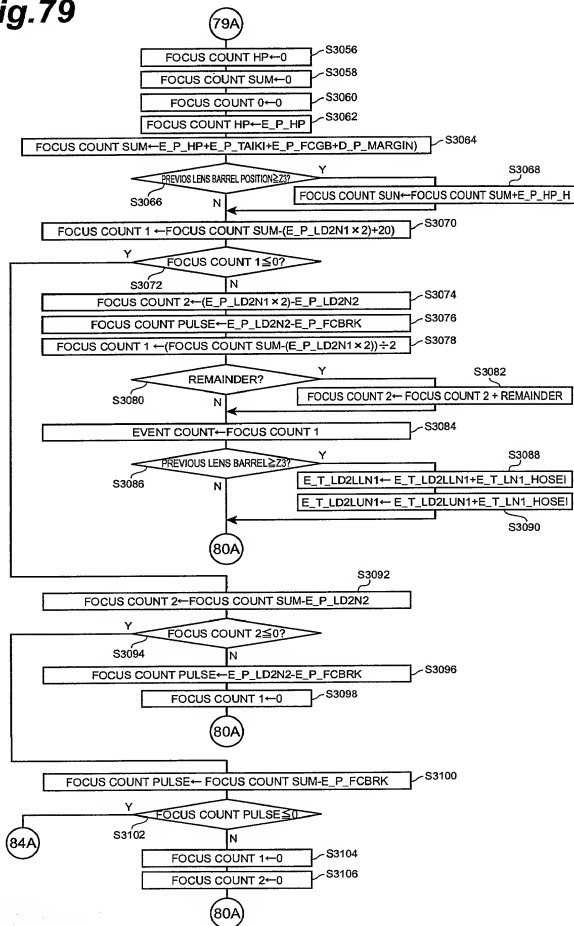
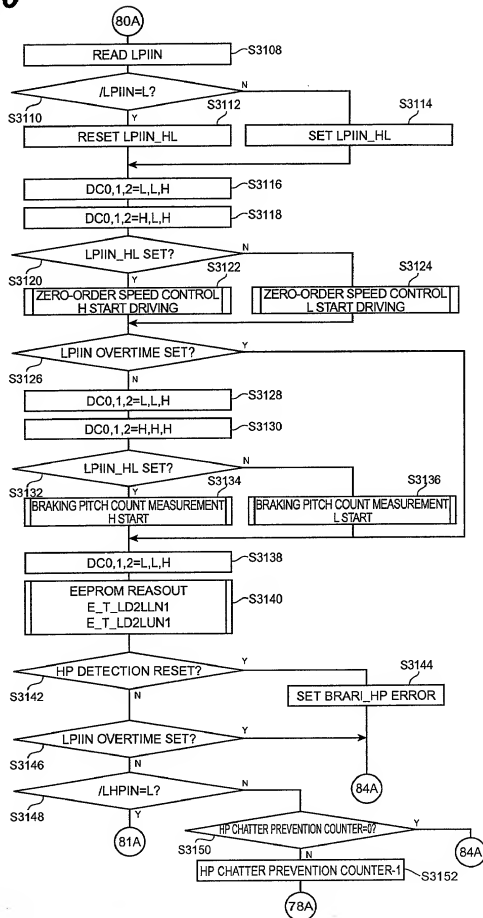


Fig.79



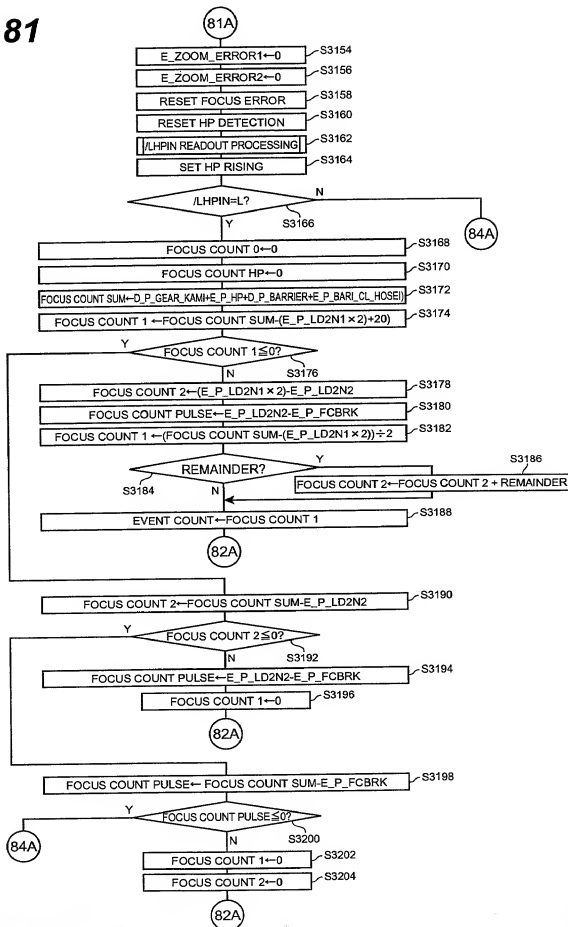
00000001-070601

Fig.80



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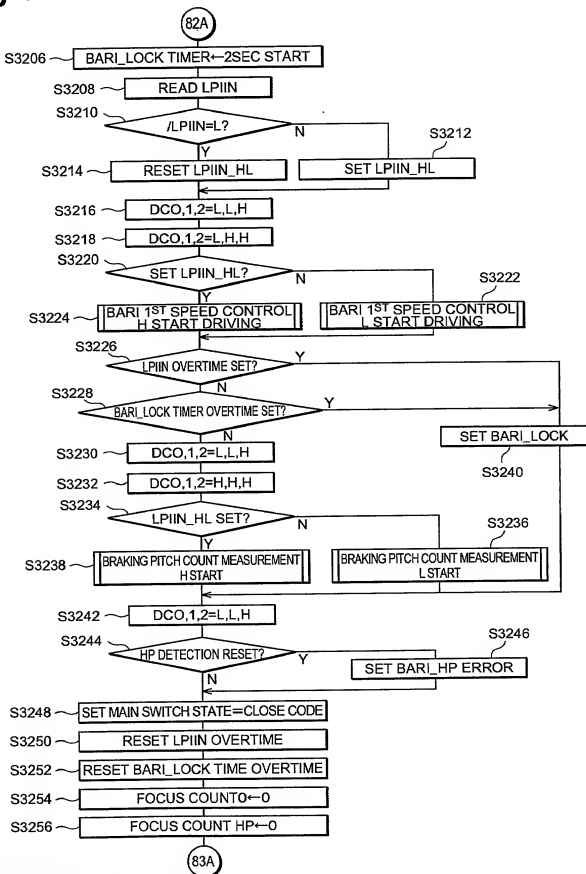
Fig.81



0000101 070601



Fig.82



**Fig.83**

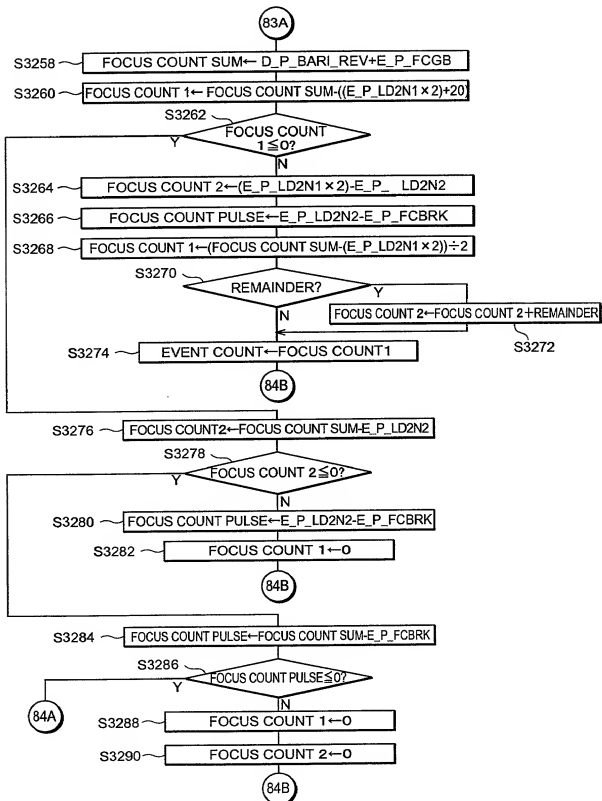
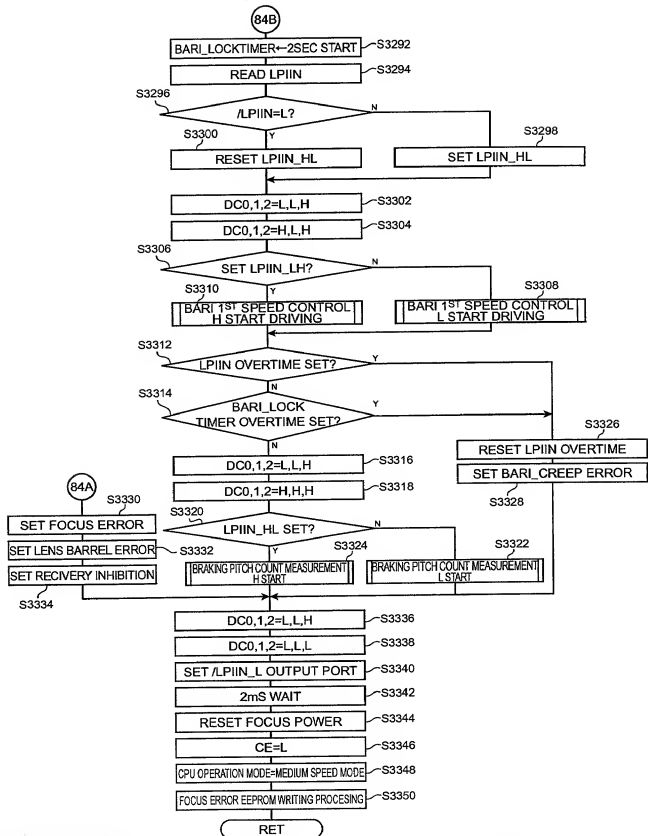


Fig.84



**090637**

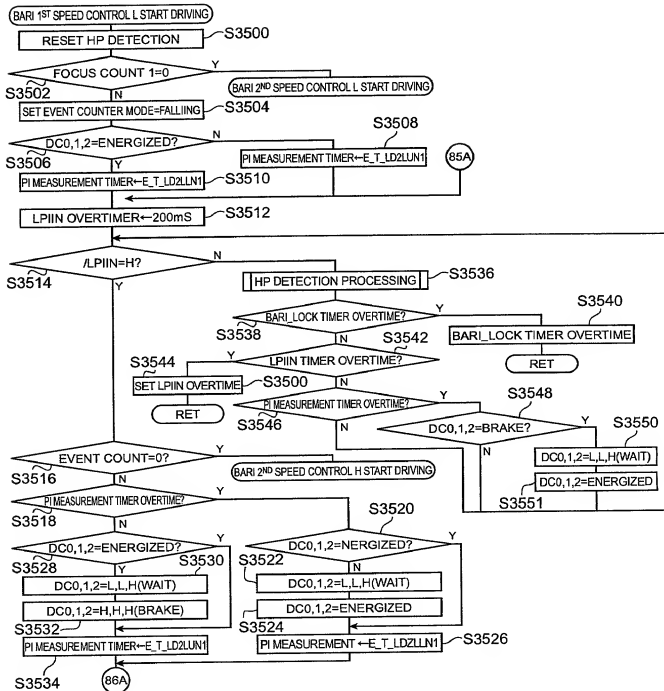
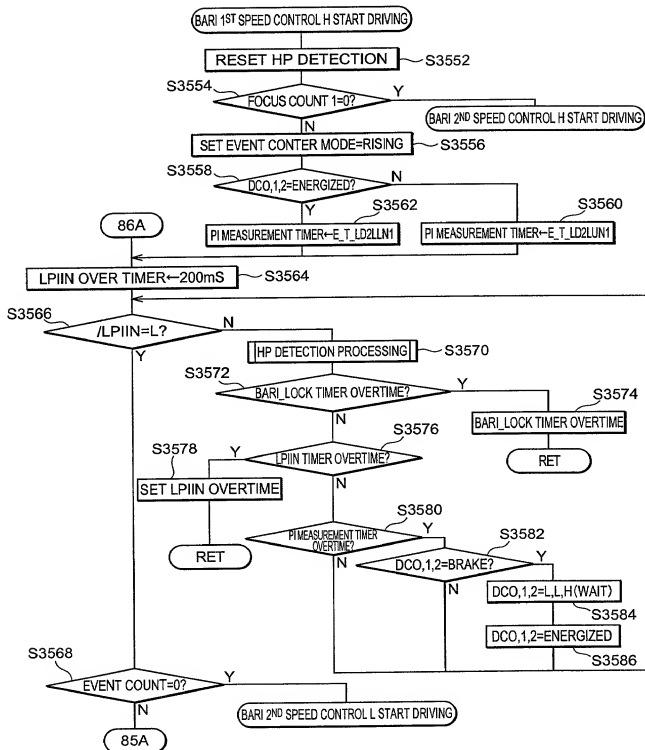
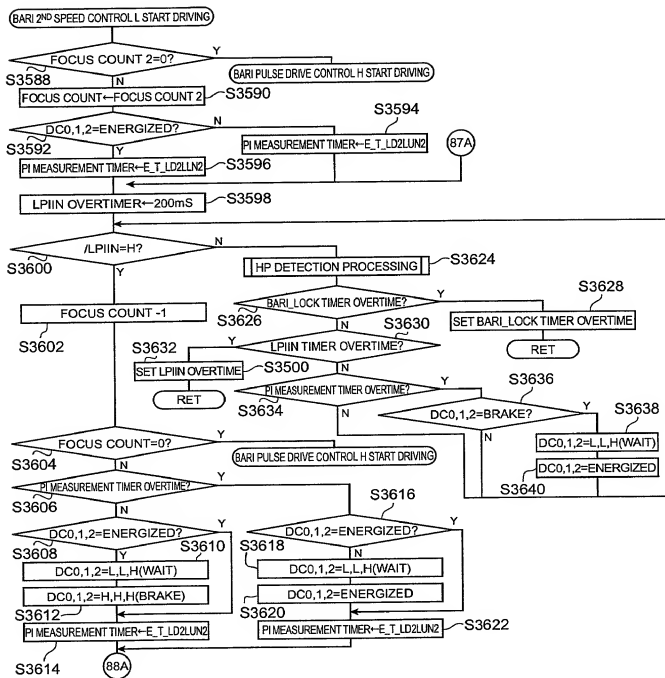
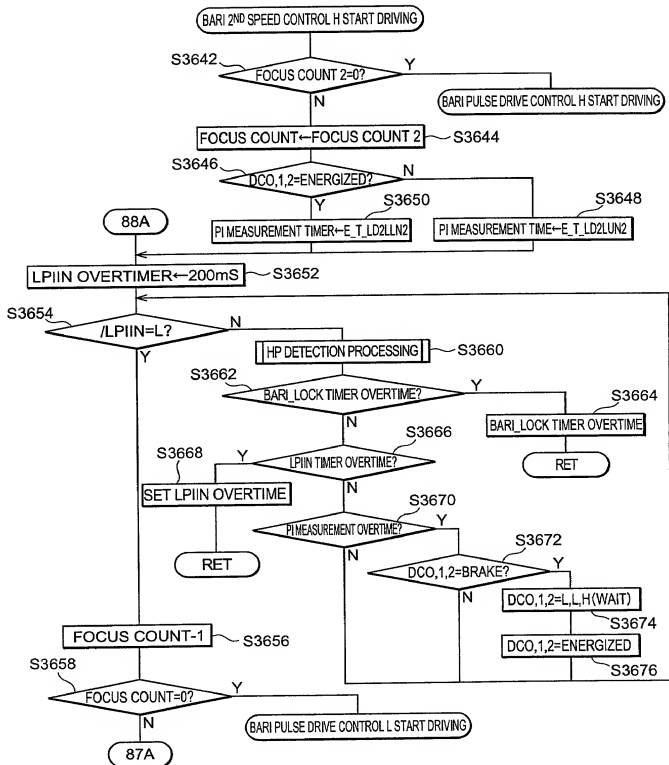


Fig.86





06897-1



# THE TROUBLE

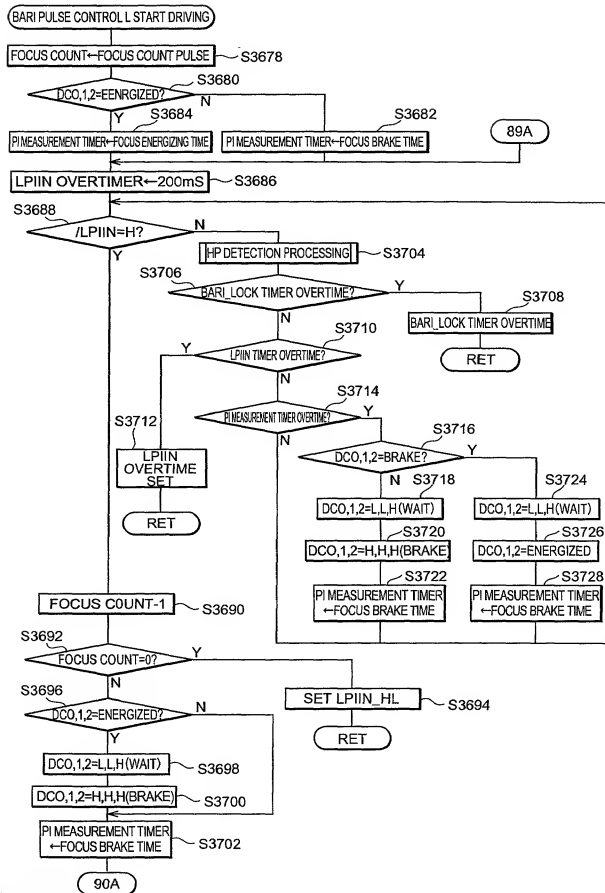
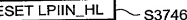
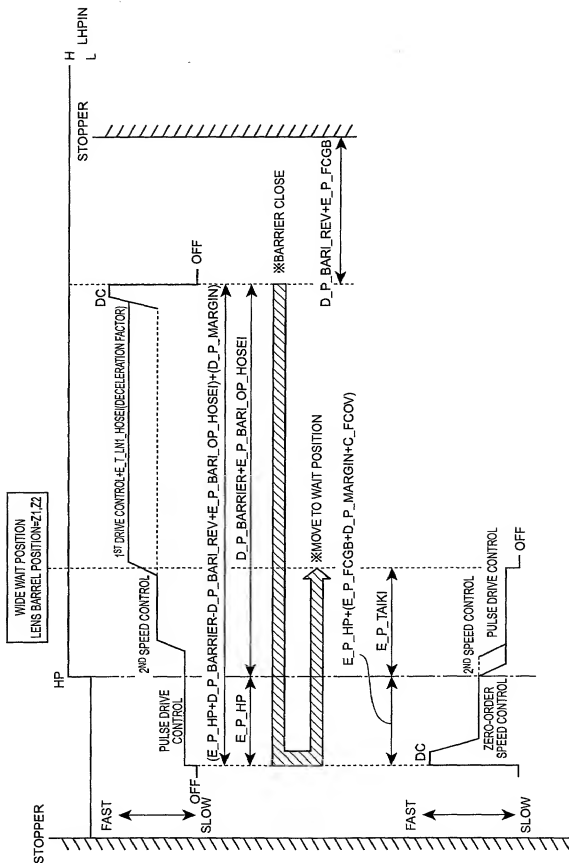




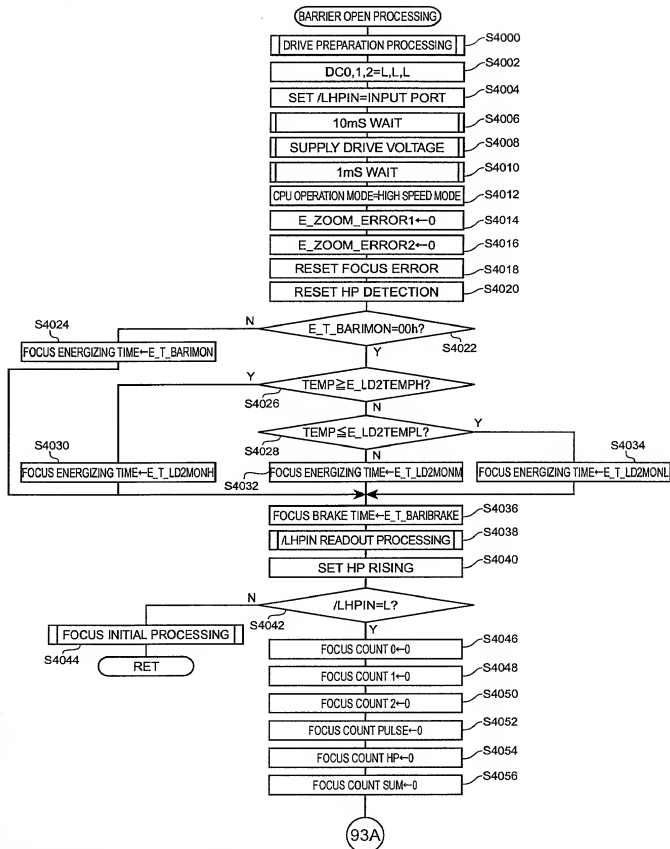
Figure 1. The structure of the proposed model.



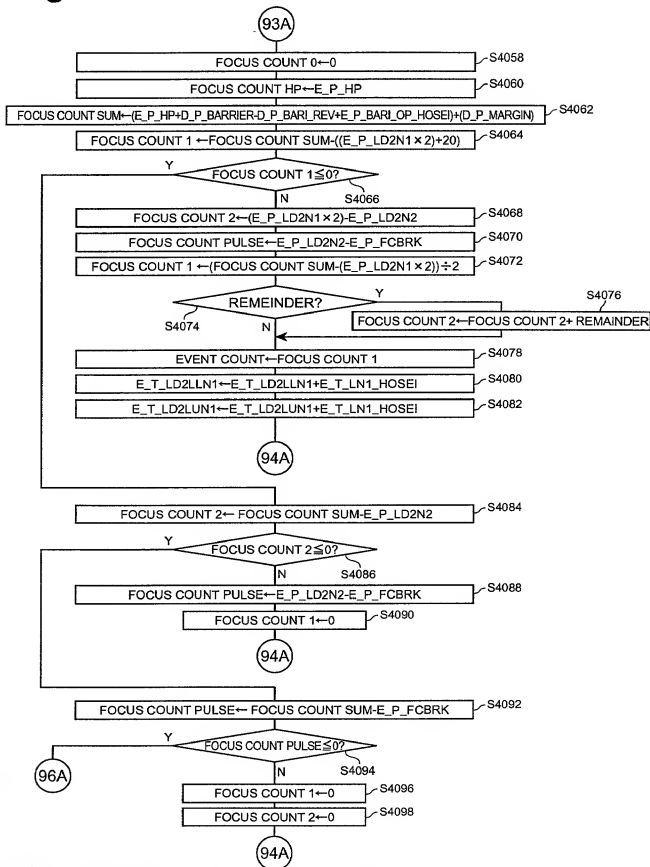
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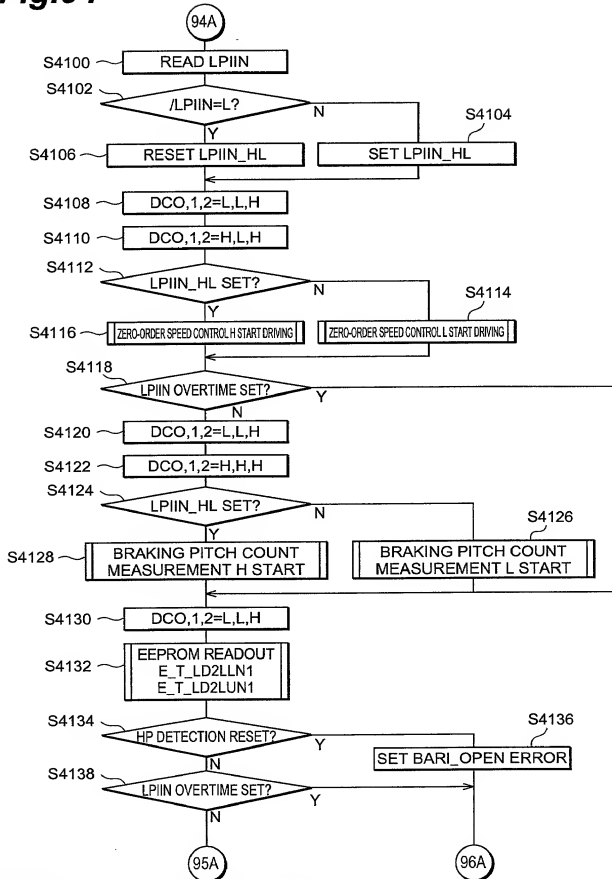
**Fig.92**



**Fig.93**



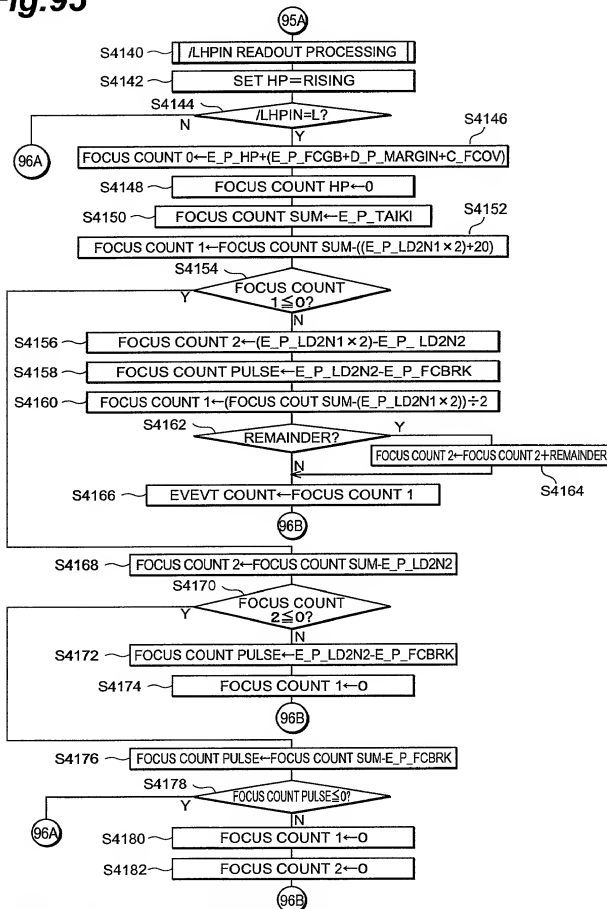
**Fig.94**



00000001.070604

FIG. 95

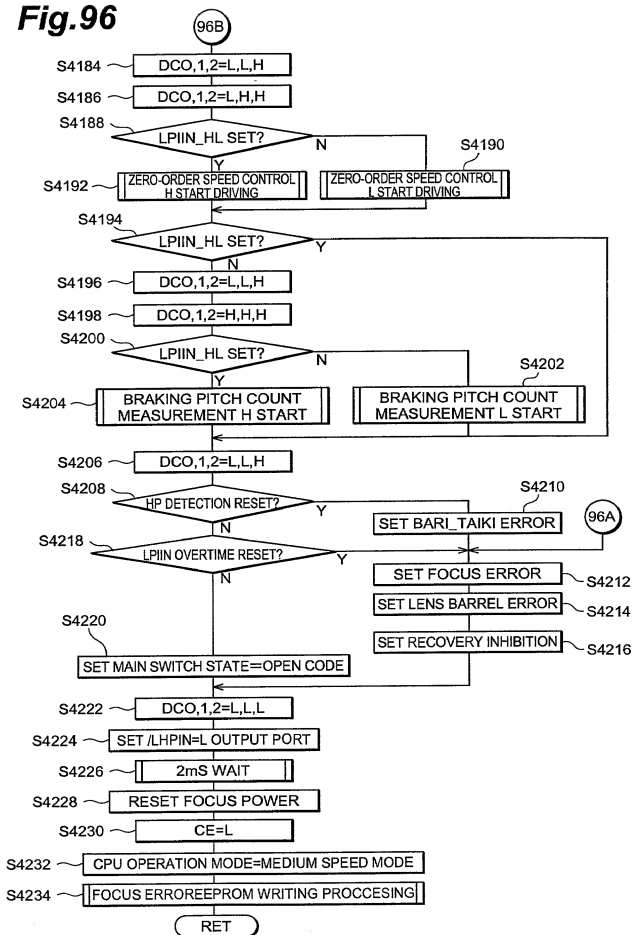
Fig.95



0669107.070604

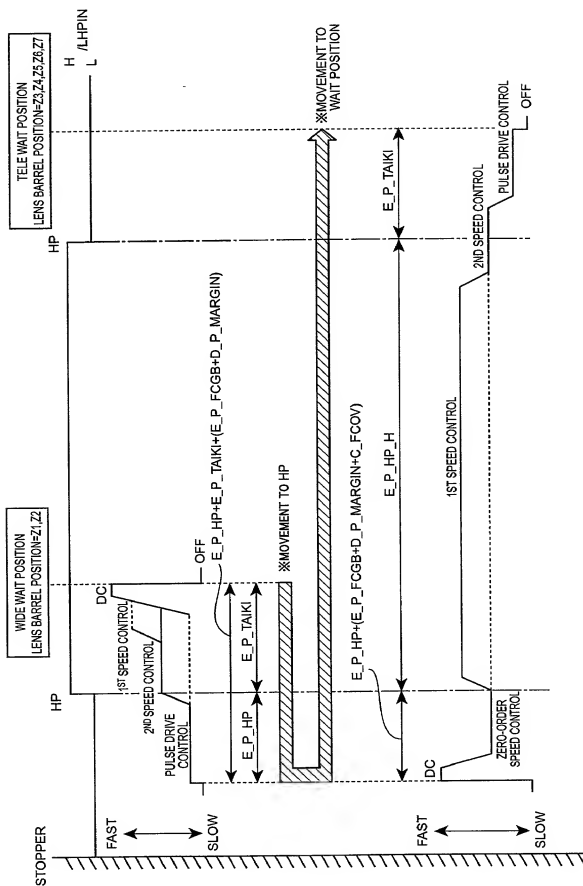
FP01-0079-00

Fig.96



000001-070001

Fig.97





**Fig.98**

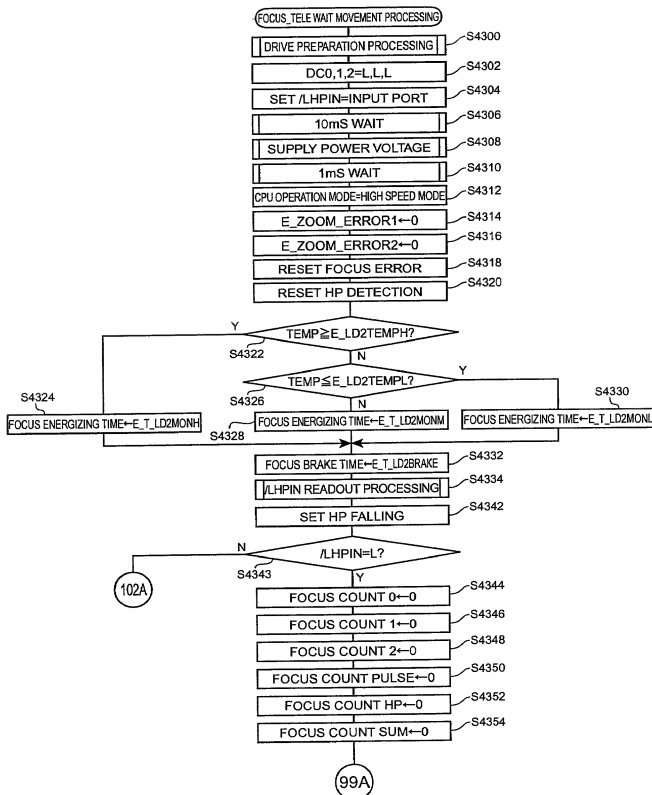


Fig. 91-0079-00

Fig.99

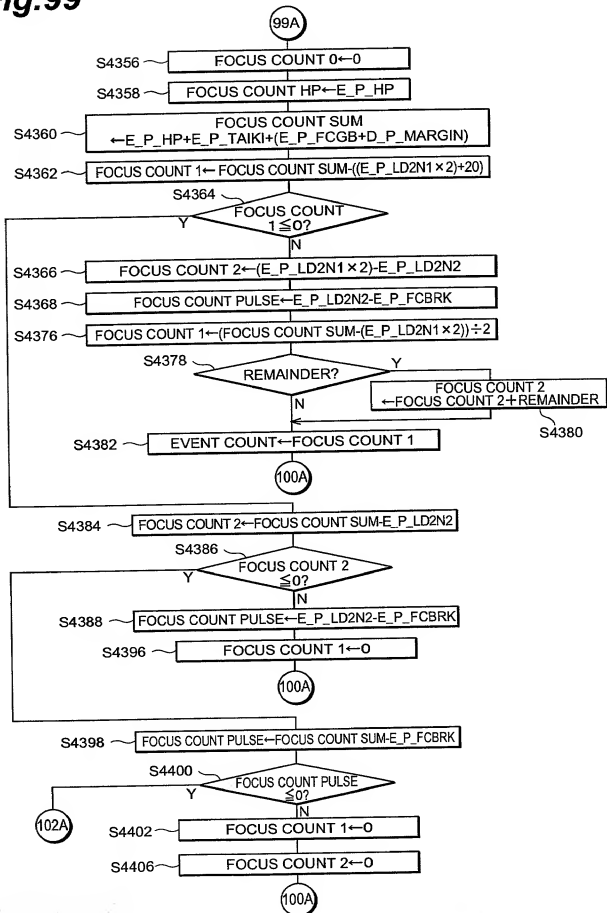
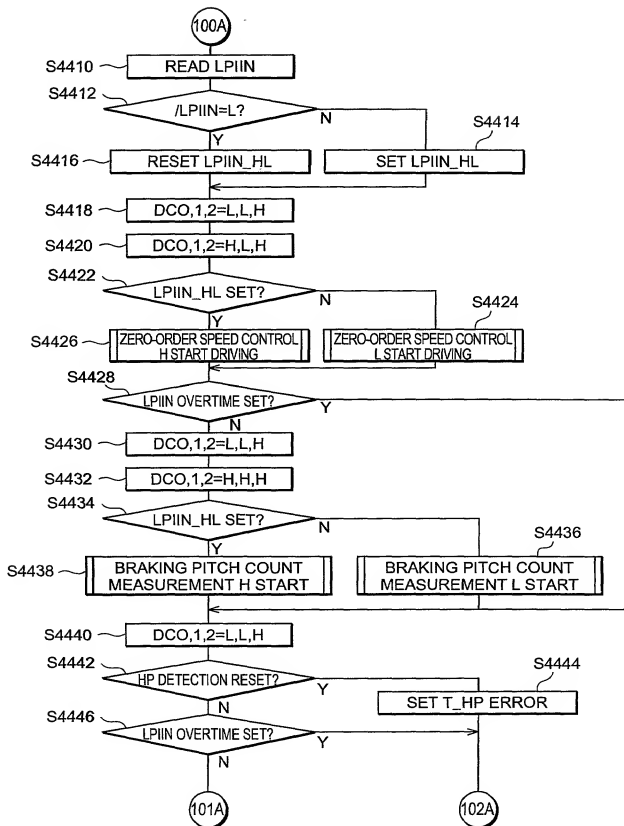


FIG. 100

**Fig.100**



**Fig.101**

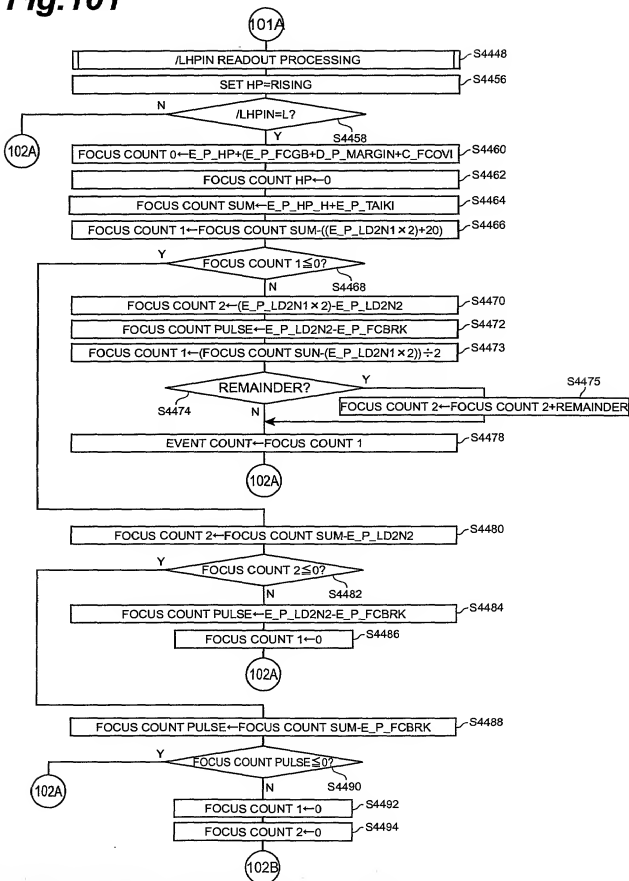
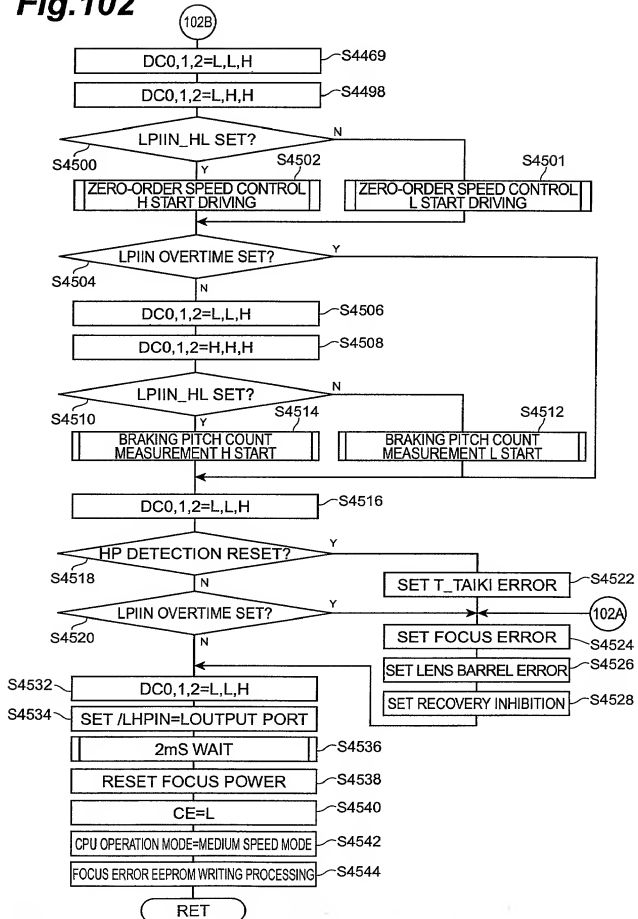
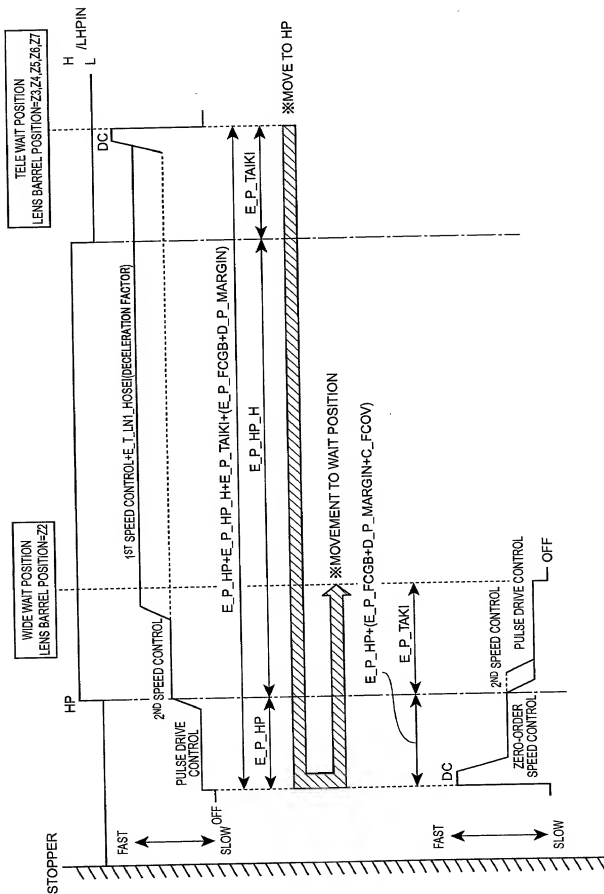


Fig.102



00000001.070601

Fig.103



PPH 0079-00

Fig.104

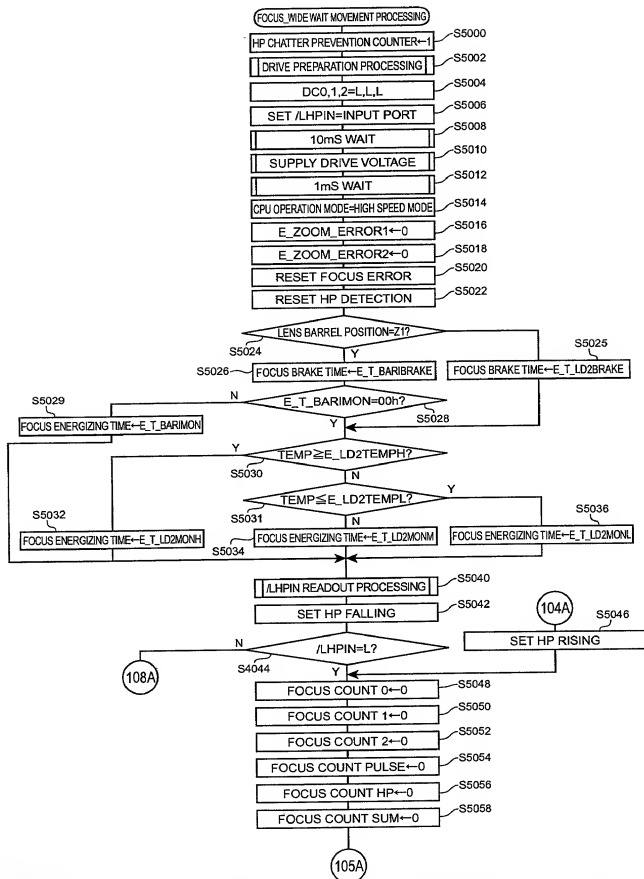
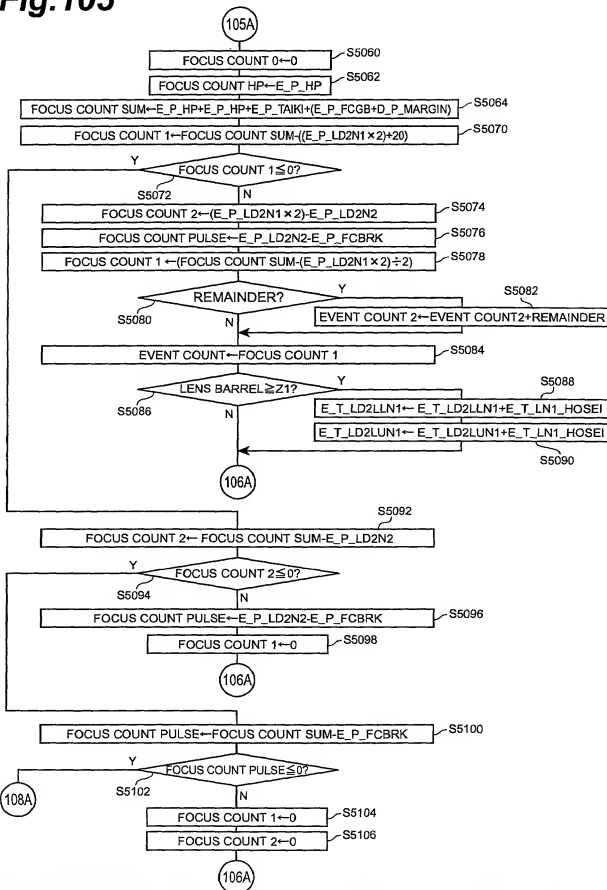


FIG. 105

**Fig.105**





**Fig.106**

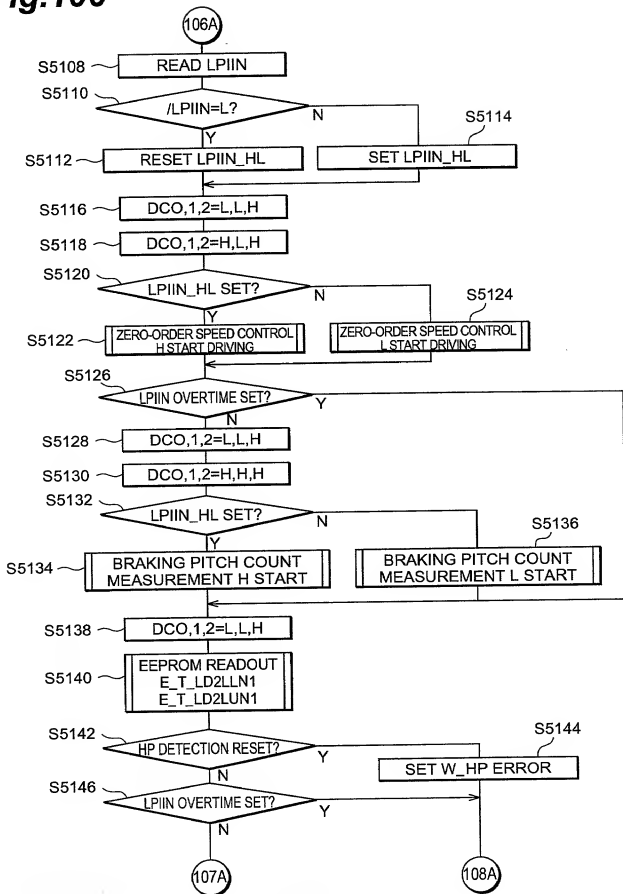
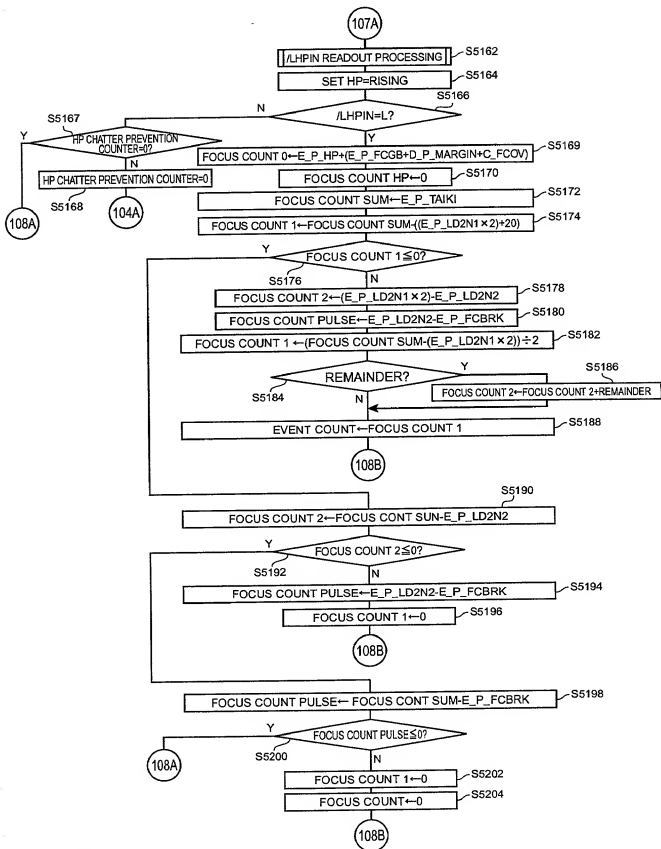
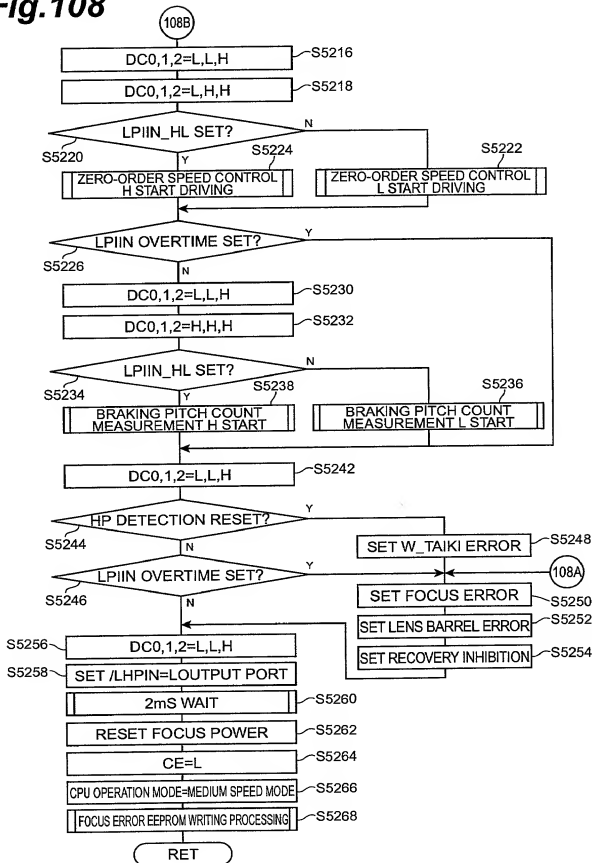


Fig.107

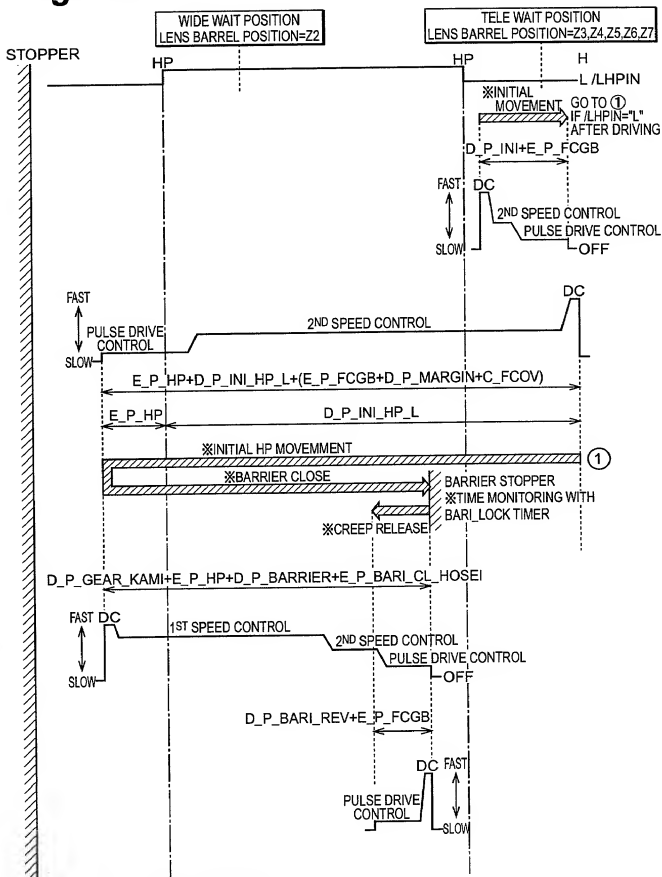


**Fig.108**

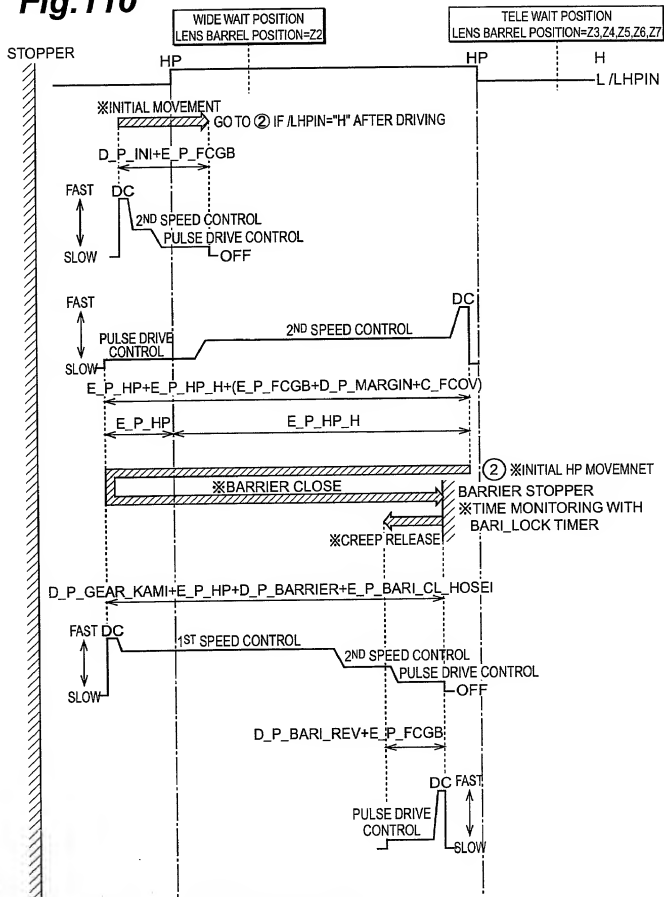


09000101.070604

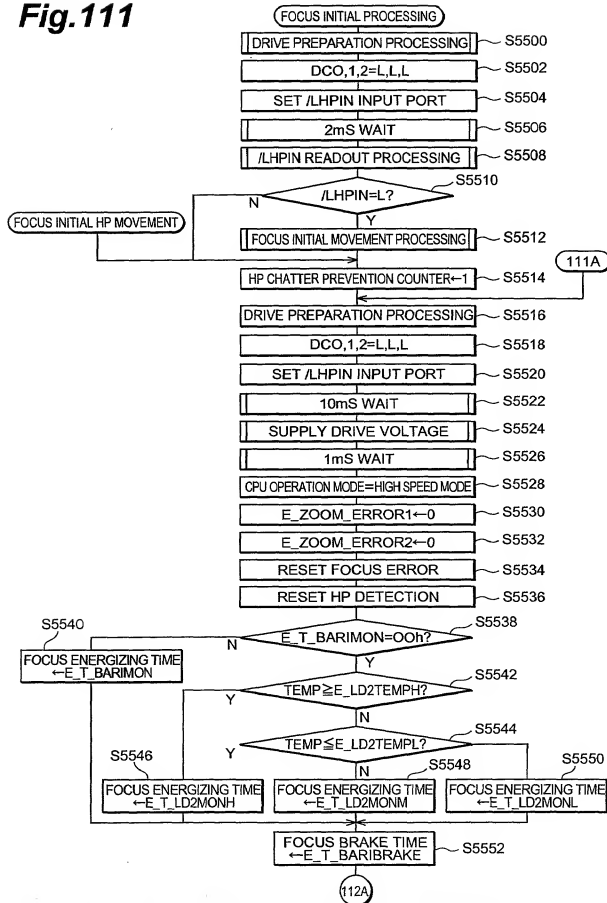
**Fig.109**



**Fig.110**

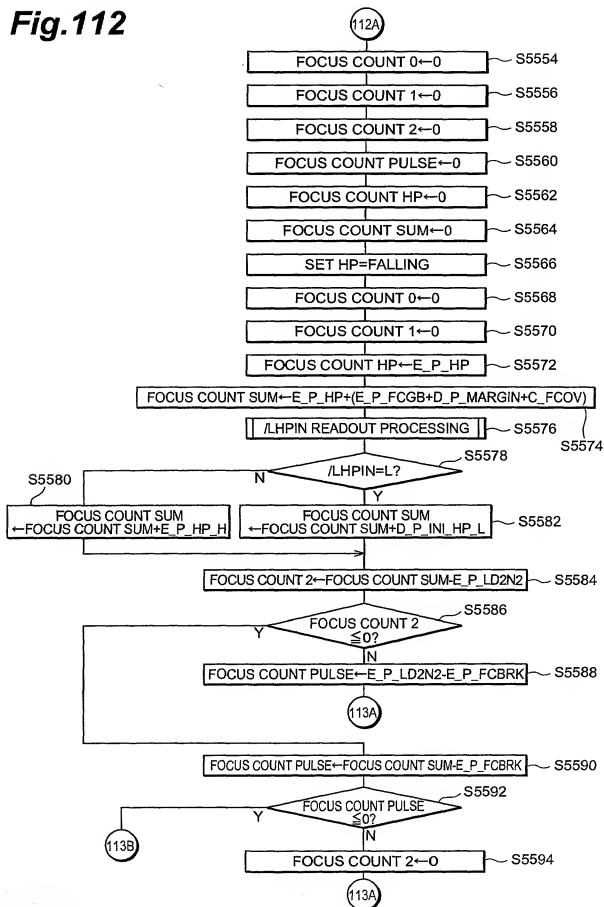


**Fig.111**



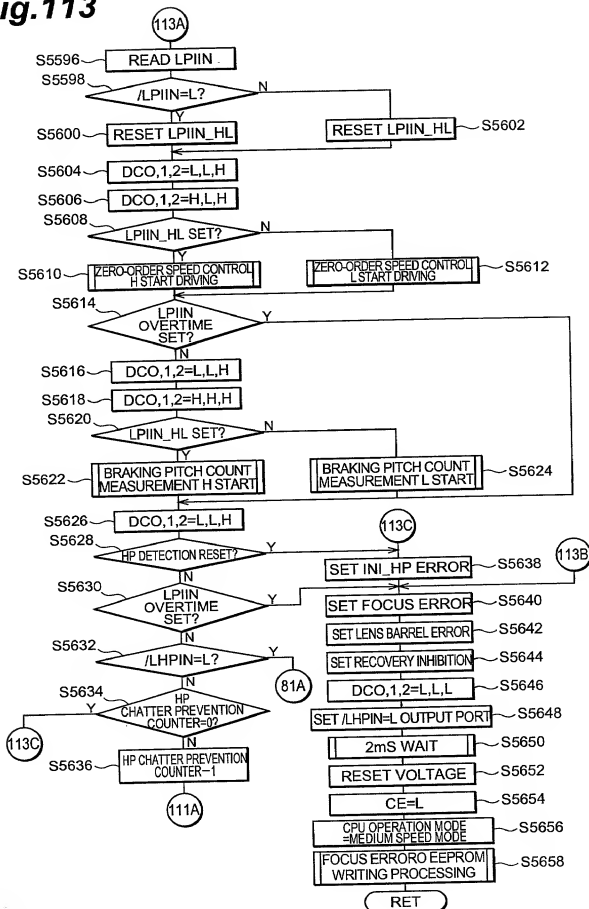
10920.1616860

Fig.112



0904016165860

Fig.113

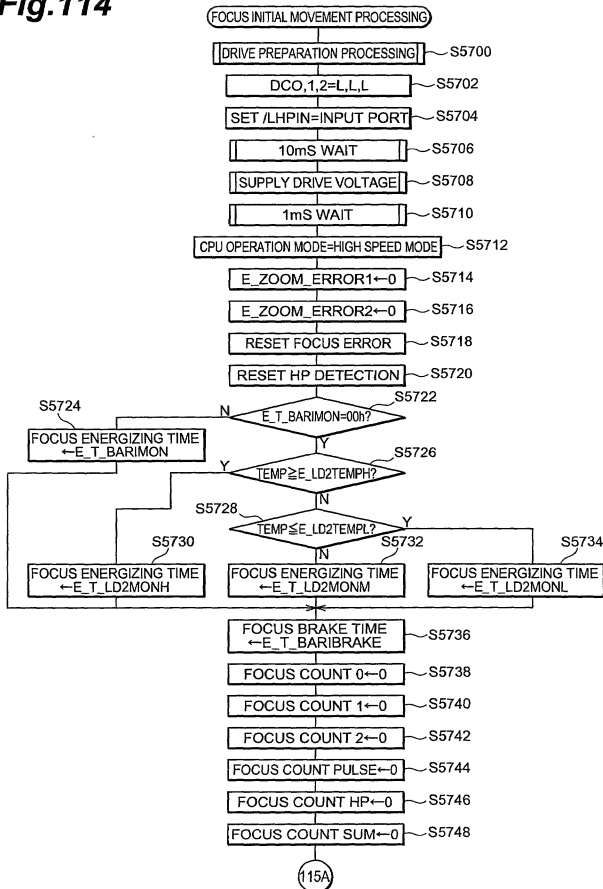


00000101 070601



PPH 0093-00

**Fig.114**



00899191 070691

Fig.115

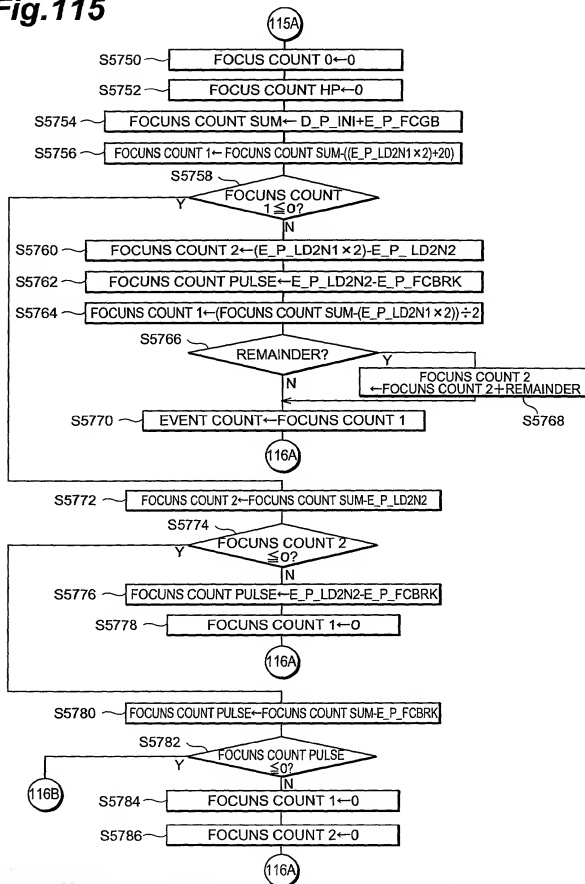
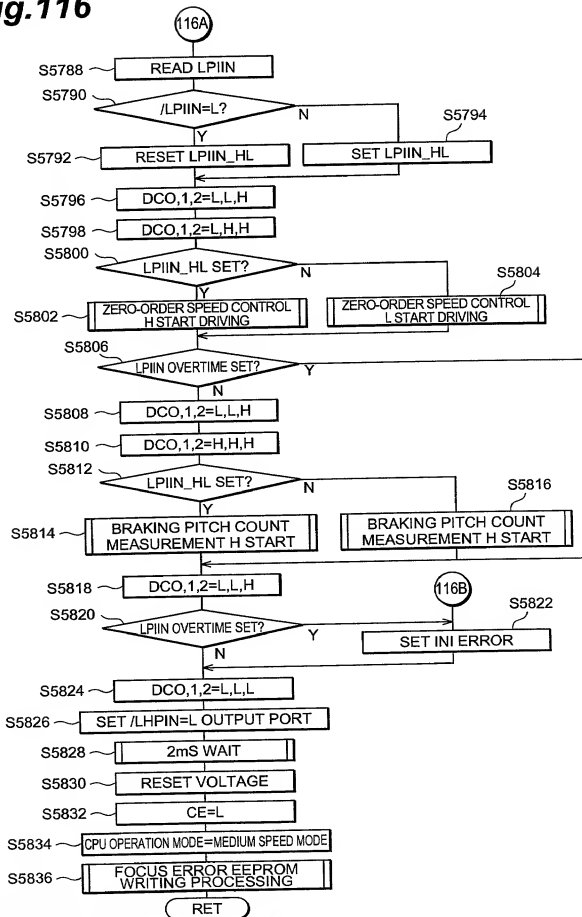


Fig.116



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109040-1616960

Fig.117

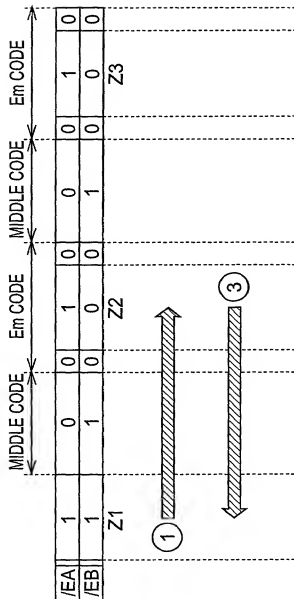


Fig.118

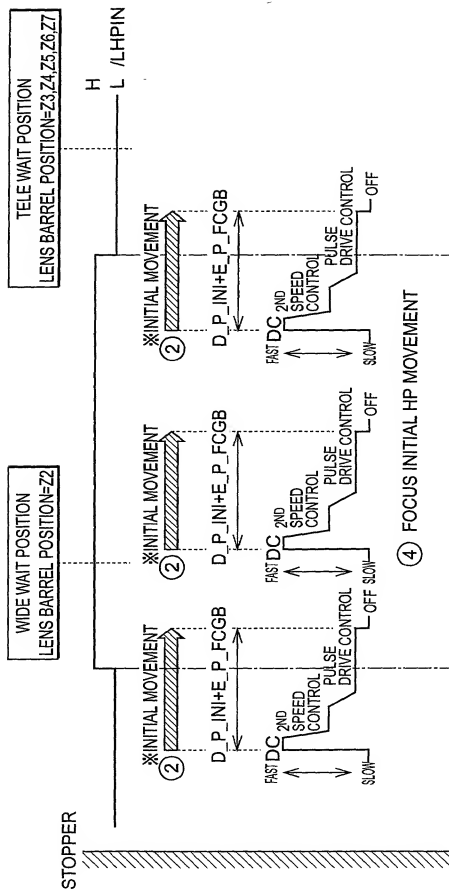
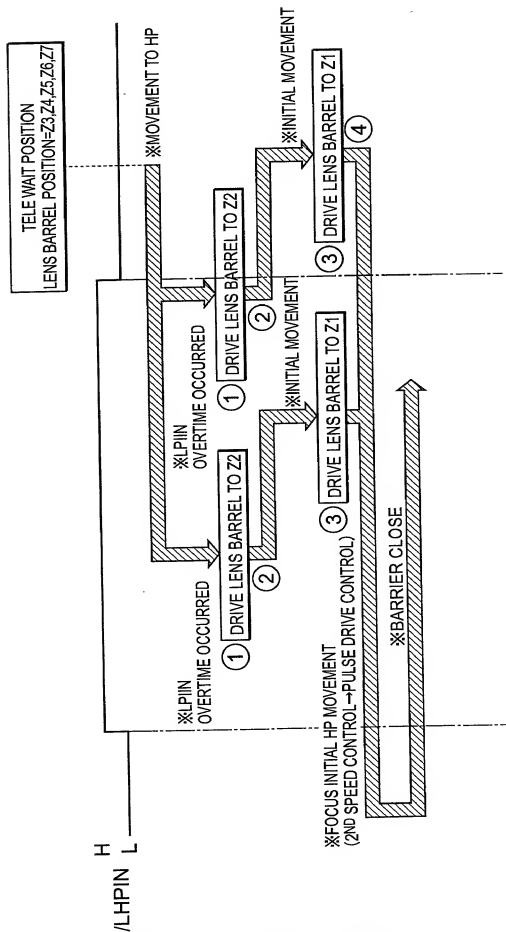
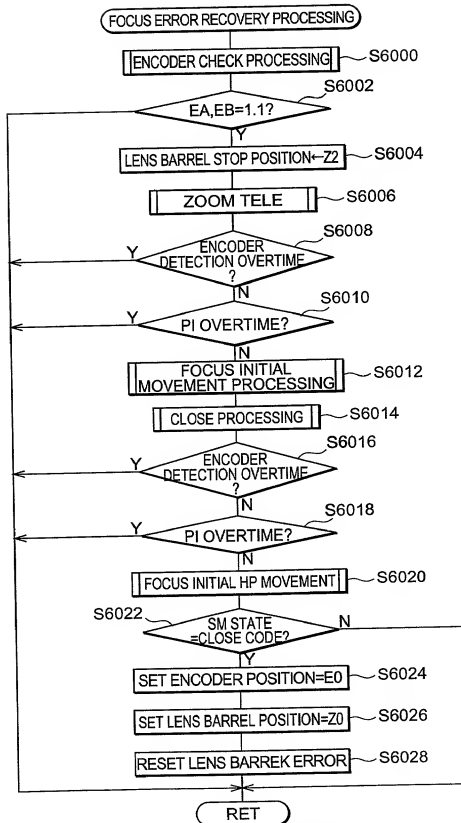


Fig. 119



**Fig.120**



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Fig.121

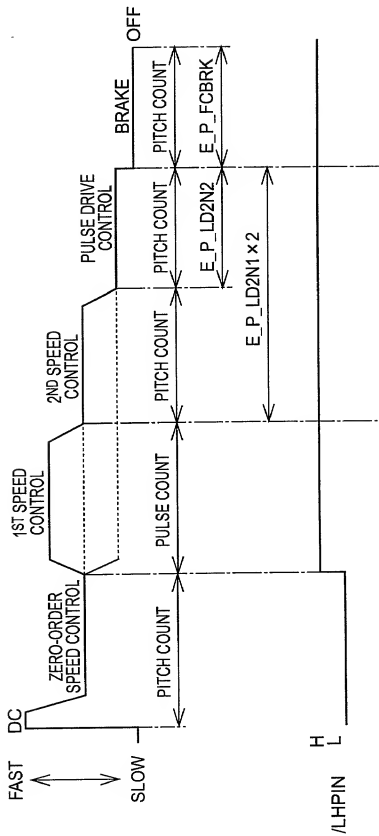
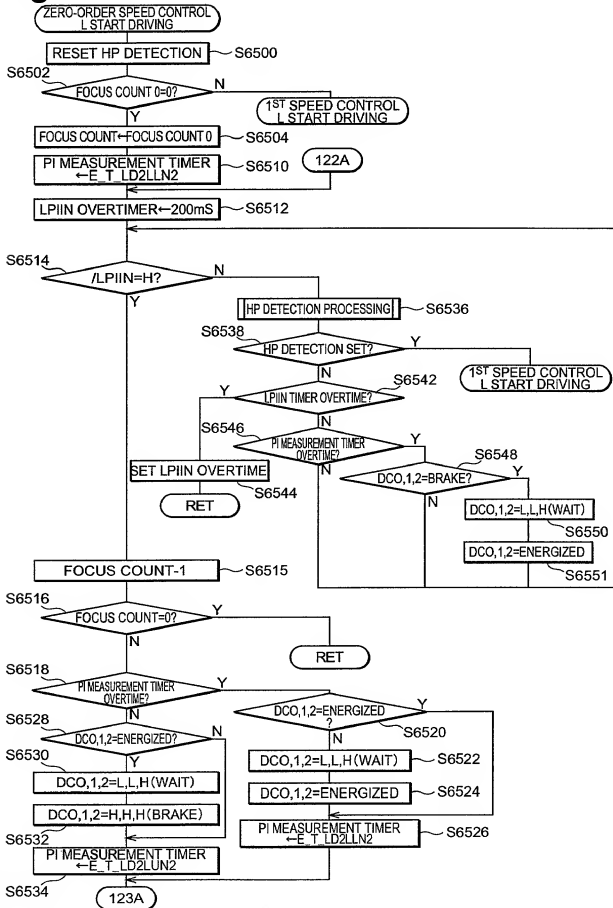
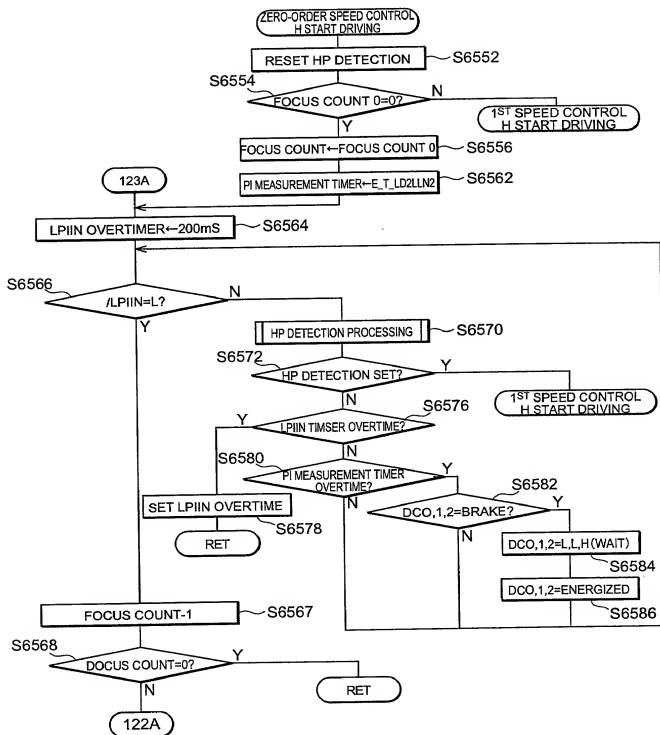




Fig.122



**Fig.123**



00000001.070601

Fig.124

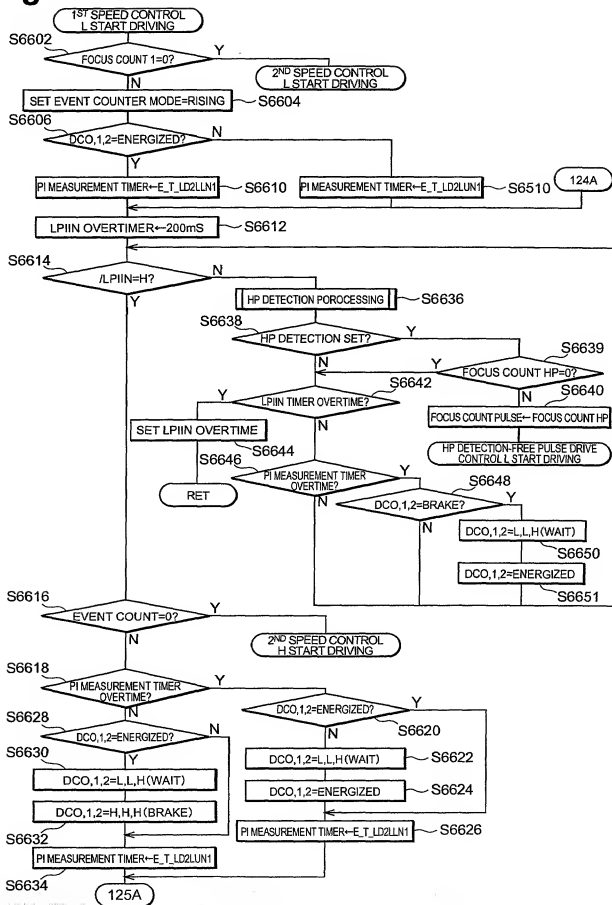
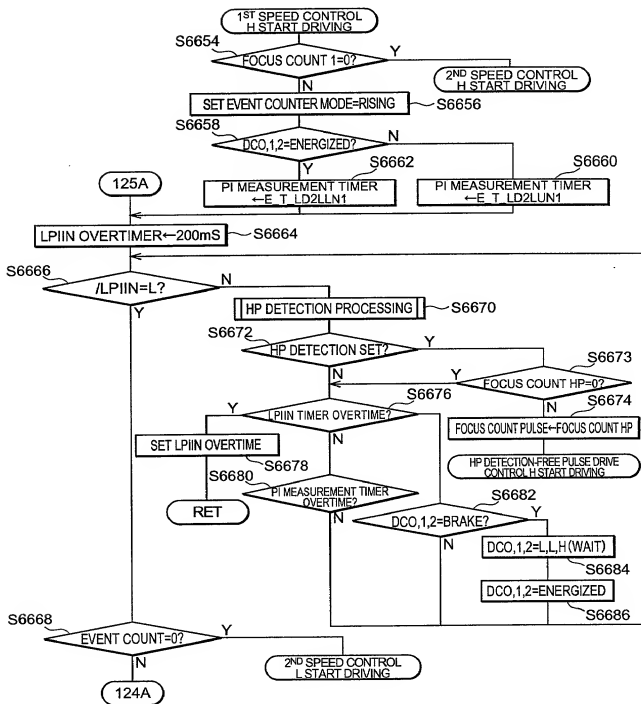


Fig.125



**Fig.126**

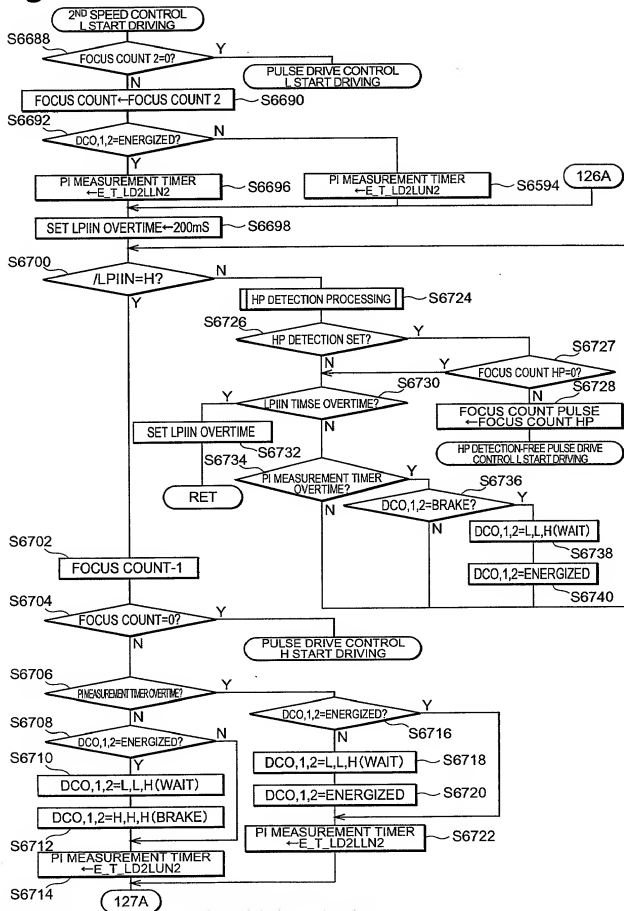
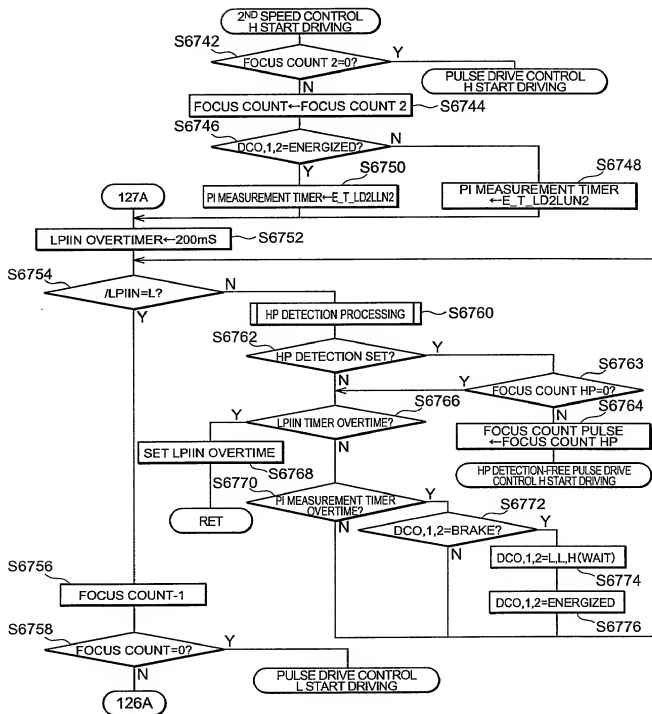


Fig.127



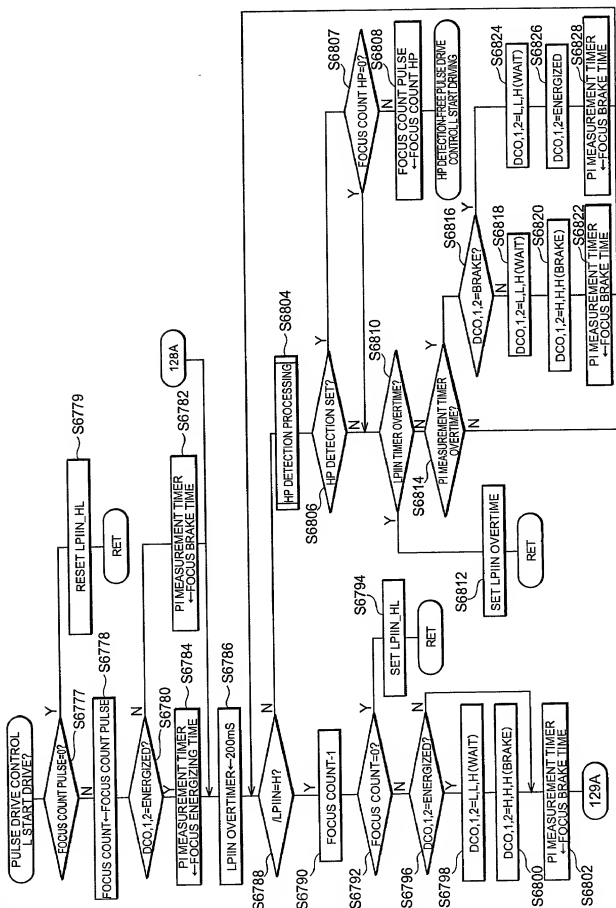
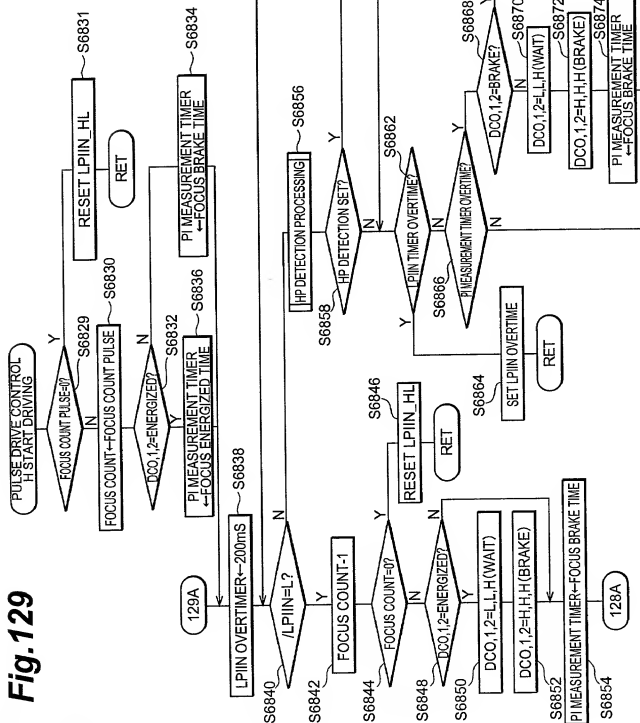


Fig. 129





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Fig.130

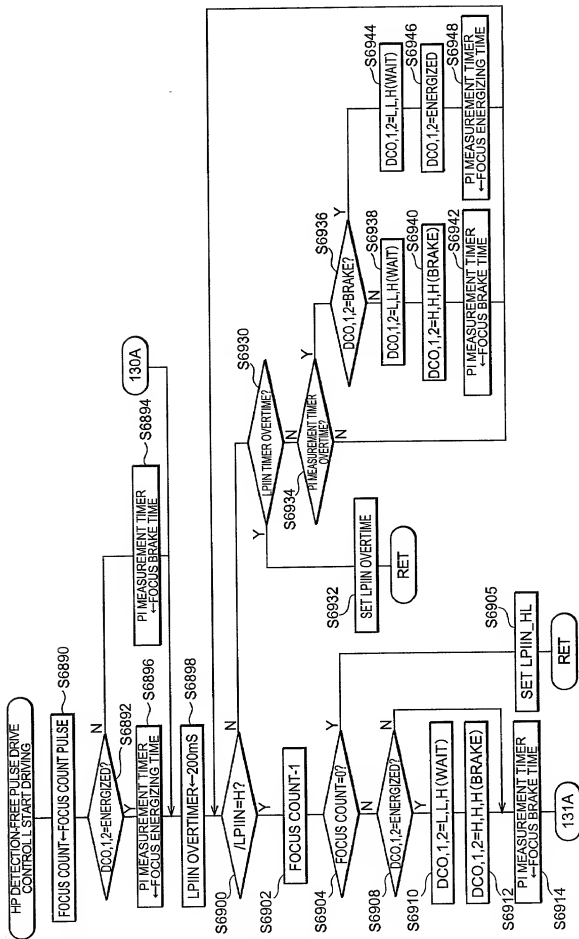
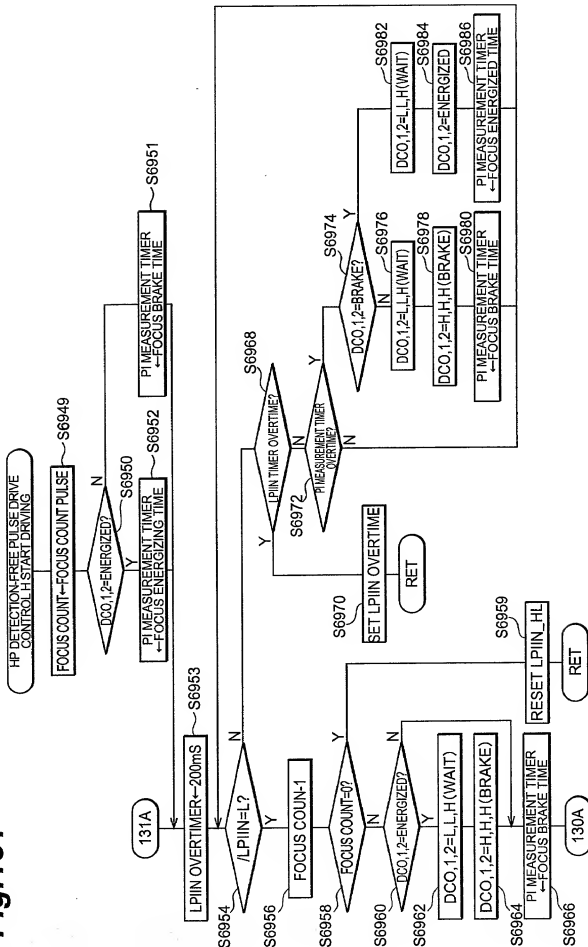
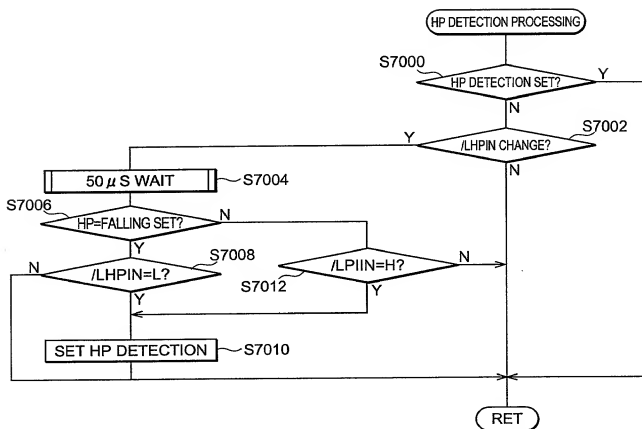


Fig.131

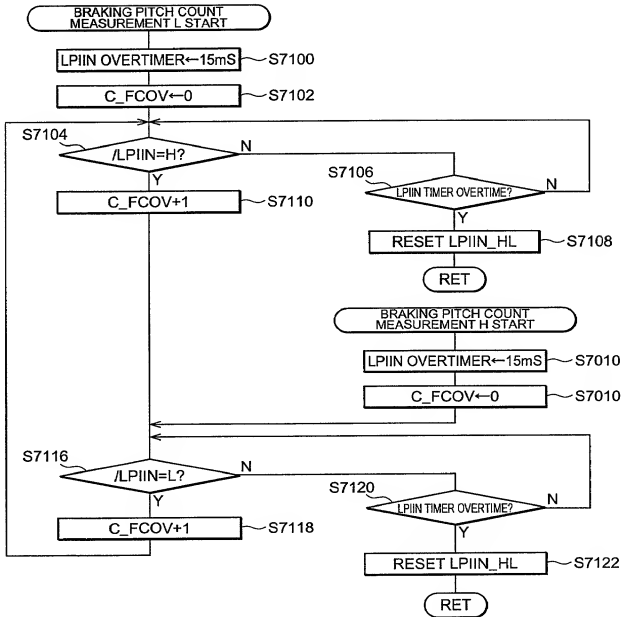


**Fig.132**



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**Fig.133**



00000101.070601